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## ORIGINAL LECTURES.

### PECULIAR FEATURES OF PNEUMONIA IN YOUNG CHILDREN.

*A Clinical Lecture.*

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GENTLEMEN: Within the past few weeks you have seen, in the clinic-room, all of the forms of acute lung disease commonly observed in the young. To-day I have the exceptional opportunity of showing you one of the rarer forms—a pneumonia of the apex.

This little boy, fourteen months old, whose history you have just heard, is suffering from a well-marked croupous pneumonia, limited to the upper lobe of the right lung. Using these cases as a text, it may be profitable for us to devote this hour to the consideration of the pneumonias of early life, with a view of bringing into stronger relief the pathological and clinical differences which the age of the patient stamps upon the disease. The importance of a thorough knowledge of this class of diseases will be appreciated when you remember that fully one-third of all deaths under five years of age depends upon some lesion of the respiratory organs. Jacobi estimates that forty per cent. of the deaths during the first year of life is due to diseases of the digestive, and twenty per cent. to those of the respiratory system; in the second year the relative proportion is changed, and thirty-six per cent. of the deaths is due to lesions of the respiratory, while only nine per cent. to those of the digestive, organs. Thus stomach and intestines are the broad avenues to death during the first, and bronchi and lungs during the second, year of life. The practical deduction from these figures is that the respiratory organs are better protected during the first year; for unquestionably the tendency to disease and death through the respiratory system is strongest during the early months of life, and steadily diminishes up to puberty. The environments of the infants—the absence of exciting causes—are sufficient to account for the immunity of the early months. We need not dwell upon these points, but certainly the senseless, if not cruel decrees of fashion, in regard to dress, are largely responsible for the frequency of lung troubles in young children. Life and health stand for nothing compared with show. The complacency is refreshing with which a mother will gush over the bare legs and exposed bust of her yearling child, while she robes herself in seal and fur.

In children, as in adults, we meet with two forms of acute pneumonia, but the comparative frequency with which they occur varies greatly at the different periods of life. Lobar or croupous pneumonia is preëminently a disease of adult life, while the lobular or catarrhal form is peculiarly the pneumonia of infancy. In a child under five years of age the presumption is strongly in favor of the catarrhal form, but I am positive that lobar pneumonia is by no means so unfrequent, even in infancy, as many authorities would lead us to infer. As you know, it is not very unusual to meet even nurslings in our dispensary practice suffering from lobar pneumonia.

Squire, of London, reports several cases which came under his observation; Steinitz gives the histories of eighty-four cases which occurred in his clinic at Breslau;

and Ziemssen, of Berlin, records one hundred and eighty-six cases, of which one hundred and seventeen occurred in the first six years, and sixty-nine in the succeeding ten years of life. Juergensen, after alluding to the difficulties of diagnosis in children, makes the statement that many who are reported to have died from "teething," "worms," "convulsions," etc., have really succumbed to an unrecognized lobar pneumonia.

Lobular pneumonia is in fact a capillary bronchitis plus an affection of the air-cells, and is happily named broncho-pneumonia. It never occurs as a primary lesion, but is always secondary to a bronchitis or to those specific diseases, as measles and pertussis, in which bronchial catarrh is a part of the natural history. It is also intimately associated with certain diatheses, as rickets and scrofula.

The conditions which render a bronchitis so much more serious in early than in adult life, largely hinge upon the smaller sizes of the bronchioles. To reduce the calibre of a bronchus in an adult by its thickened mucosa and the adhesion to its walls of tough mucus, will only slightly interfere with its function as a carrier of air, but in the smaller tube of the child it means occlusion, more or less complete, with resultant dyspnoea, lobular collapse, and perhaps pneumonic infiltration.

Collapse of the lobules of the lung, which is such a common complication of bronchitis in children, plays an important role in the development of catarrhal pneumonia. Many authorities hold it to be absolutely essential that collapse of one or more pulmonary lobules should precede the inflammation of the alveoli. In this event, the links of the chain are bronchitis, plugging of a bronchus by swollen membrane and mucus, collapse of lobule, and, finally, the setting up in the collapsed portion of an inflammatory process similar to, but not identical with that of croupous pneumonia. Others, while admitting that this is the usual sequence, maintain that the collapse is not essential, and that the inflammation often travels along the successive branches of the bronchial tree, and thus invades the air-cells. The balance of proof is undoubtedly in favor of the view that pulmonary collapse is the very frequent, but not necessary, antecedent of the pneumonia.

It is estimated that one-sixth of the illnesses, and about the same proportion of deaths, in children under five years of age, are due to catarrhal diseases of the respiratory organs. But lobular pneumonia possesses intense clinical interest not only on account of its fatality, but also for the reason that it is recognized as the chief factor in the etiology of caseous phthisis. Under favorable circumstances, the epithelial cells and leucocytes which crowd the bronchioles, alveoli, and intervening connective tissue, undergo a conversion into fat and are absorbed, or into mucus and are expectorated. But if anything occurs to arrest these processes; if the constitution be vulnerable from inheritance, previous disease, or bad surroundings, the inflammatory product becomes converted into a caseous mass, which mechanically compresses air-cells, bronchioles, and blood-vessels until they die, and then the child has so-called caseous phthisis. Again, acute miliary tuberculosis—tubercular phthisis—is by no means an infrequent sequel of a catarrhal pneumonia.

You are already familiar with the clinical portraits of both forms of pneumonia, and I pass at once to the

consideration of some of the more prominent differences between the pneumonias of early and later life.

1. As to the portion of lung involved in the disease. In the adult a croupous pneumonia is very generally limited to the lower lobe of the right lung, but in children it attacks indifferently either lung or any lobe. In a fair proportion of cases the upper and middle lobes are affected with or without implication of the base. Nurslings or feeble children of any age are especially apt to suffer from an apex pneumonia, but it is by no means uncommon in the robust, as in the case before us this afternoon. In fifty-one cases recorded by Meigs and Pepper, the upper lobe was affected in twenty, while in thirty-one the base of the lung was the seat of the disease.

In the catarrhal form of the disease, which is generally bilateral, there also exists in children a greater proneness to implication of the upper lobes than in adults. It is, therefore, an invaluable practical rule, if you would avoid falling into error, to carefully interrogate the apex as well as the base of the chest when a child is ill with a suspected lung trouble of any kind.

A pneumonia limited to the upper lobe would in the adult be open to the gravest suspicion; indeed, it would very positively indicate the presence of a tubercular deposit or a specially vulnerable constitution. In the young, however, it is not unusual to find the apex involved, without any suggestion in the family record or previous history of a tubercular diathesis, and occasionally the inflammation will run its course without anything phenomenal in the symptoms or termination. But it is important for you to remember the clinical fact that, as a rule, an apex pneumonia, be it lobar or lobular, does not run the typical course with which you are so familiar. The inflammatory product is more slowly deposited and more slowly removed, the febrile movement and nervous symptoms are out of proportion to the amount of lung involved, and the whole attack wears a graver physiognomy. This fact will occasionally render your diagnosis very doubtful. Physical signs can only tell the presence, not the nature, of the consolidation. I am satisfied that in many cases it will be impossible to decide until sufficient time has elapsed whether a given solidification of the apex is due to acute tuberculosis or to a slowly resolving pneumonia. Usually, however, the history of the attack, the child's inheritance, the condition of the lymphatic glands, the extent of the solidification, and the thermometric range will guide us to the truth. Ziemssen was the first to point out that in a lobar pneumonia, even of the apex, the thermometer registers a higher degree, and shows less fluctuation between morning and evening temperatures than in consolidation from tubercular deposit.

The difficulties are greater when the differentiation must be made in the lobular disease. Dr. Buchanan makes the statement in his Lettsomian Lectures that, "For anything that can be made out by the stethoscope, the thermometer, or the most careful clinical inquiry, it is absolutely impossible to say whether the lung signs are due to acute tubercularization or to lobular pneumonia."

2. As to the import and frequency of some of the symptoms. The chill which so frequently ushers in a pneumonia in the adult is rarely met with in the child, and if present only amounts to a sensation of chilliness. The nervous symptoms are much more pronounced in the child than in the adult. Very often a pneumonia, especially of the lobar form, is announced by a convulsion, and these cases are not necessarily marked by other cerebral disturbances, or do not always foretell the graver forms. The excitable nervous organizations of children render them peculiarly liable to these "nerve storms." In many cases, either with or with-

out the initial convulsion, the nervous symptoms assume such prominence as to distract attention from the real seat of disease. Headache, vomiting, delirium, stupor, and convulsions, constitute a grouping of symptoms which will easily mislead a careless practitioner. It is important to bear in mind that cerebral symptoms are apt to predominate when the upper lobe is involved. While the rule is not absolute, an apex pneumonia rarely runs its course without the presence of more or less decided brain symptoms, and, for this reason, many authors designate this form as cerebral pneumonia. This peculiarity is well exemplified in the case before us—the initial convulsion, the stupor, the boring of the occiput into the pillow, and the muscular twitching are quite characteristic. A knowledge of the manner in which a pneumonia may simulate a meningitis will be enough to put you upon your guard. Occasionally you will be compelled to withhold, for a time, your diagnosis, but usually a careful exploration of the chest will lead to a correct interpretation of the symptoms.

The sputum does not possess the same diagnostic characters in the child as in the adult. Under five or six years of age, children rarely expectorate. Unless taught by the hard experience of a whooping-cough or chronic bronchitis, the sputum is coughed into the fauces and swallowed. When present it is not rusty and viscid, even in lobar pneumonia, but is light in color, thin, frothy, and less tenacious. In the catarrhal form, as, you know, the extruded matter is not an exudation from the blood, but is the product of cell proliferation commingled with the secretion of the mucous glands. Exudation of red blood-corpuscles rarely occurs in catarrhal inflammations, and as these form so large a proportion of infantile pneumonias, the absence of rusty sputa is easily explained.

Children with relatively the same extent of lung involved ordinarily suffer greater dyspnoea than adults. This is seen in the rapid breathing, the action of the auxiliary respiratory muscles, and the infra-mammary retraction of the thoracic walls, which attend upon comparatively mild grades of the disease. In a case of moderate severity the breathing rises as high as forty or fifty respirations per minute, while in the graver forms they may number eighty or ninety, and the pulse-respiration ratio will be correspondingly altered. Not infrequently, the rhythm of the respiratory acts is so changed that the pause comes after the inspiration instead of after the expiration.

There are three symptoms which possess much greater diagnostic value in the child than in the adult—the respiratory moan, the flapping of the nares, and the sulcus around the base of the chest. The latter tells unmistakably of the impeded entrance to air, and is usually indicative of capillary bronchitis, lobular pneumonia, or laryngeal stenosis. Although the expiratory moan is not, as it was formerly considered, pathognomonic of intra-thoracic disease, it does indicate, with tolerable correctness, a pleurisy or lobar pneumonia.

Another striking peculiarity of infantile pneumonias is the insidious manner in which they are frequently developed. We have already spoken of the closeness with which lobar pneumonia may simulate simple meningitis, and might with equal propriety draw attention to the similarity which often exists between chronic lobular pneumonia and tubercular meningitis. As thorough a clinician as Juergensen states that it is often impossible to determine with certainty whether a child suffering from catarrhal pneumonia has not at the same time a moderate crop of tubercles in the brain.

A sub-acute pneumonia not infrequently creeps on during the progress of an acute illness, especially an enterocolitis, and presents but few symptoms to indicate the dangerous complication.

Badly nourished, especially bottle-fed, babies will, without any acute disease, frequently suffer from passive congestion of the lungs or lobular collapse, due to the feebleness of the respiratory and circulatory movements, which will result in a form of catarrhal inflammation—hypostatic pneumonia—and yet be announced by very indefinite pulmonary symptoms.

An important therapeutic hint may be drawn from these facts. When a feeble or young infant is seriously ill with any acute disease, it is of great advantage to insist upon frequent changes of position, and even allowing it, at intervals, to rest upon its abdomen so as to obviate this tendency to hypostatic congestion.

### 3. As to physical signs.

Pneumonia in the child is recognized by the same physical signs as in the adult, and yet there are some important modifications, which, if ignored, will inevitably lead to mistaken diagnoses. It may, perhaps, be unnecessary to refresh your memories as to the peculiarities of the normal breathing of young children.

You know that in the forced breathing of infants, or in the ordinary respiration of those over two years of age, the normal vesicular murmur has a blowing or bronchial character, to which the name of "puerile" was given by Laennec. Therefore, breathing sounds, which are normal in the infant, would in the adult signify morbid changes in the parenchyma of the lung.

Percussion in the child normally elicits a more sonorous sound than in the adult, on account of the thinness of the chest walls, the smaller bulk of the lungs, and the ease with which the air in the primary bronchi and trachea is thrown into vibration.

Another point of undoubted clinical importance is that there is often a normal difference in the resonance of the apices of the child's chest, the opposite of that found in the adult. Dr. Buchanan has shown that, in healthy children under seven years of age, the left apex is quite commonly a little duller than the right.

Beyond doubt many practitioners are constantly misled by failing to appreciate the extent to which tension of the abdominal muscles may modify the results of physical exploration of the chest. The moment you attempt to percuss a child, it, voluntarily or involuntarily, employs what Vogel terms "abdominal pressure," whereby the abdominal viscera are forced upwards and encroach upon the thoracic cavity: on this account the line of dullness is different on opposite sides and is constantly changing on the same side of the thorax.

The liver, which is relatively very large in the child, may in this way cause dullness up to the spine of the scapula. To eliminate error from this source, it is essential that you continue your examination in one spot long enough to percuss at the moment of the deepest inspiration and the most complete expiration.

The crepitant râle—that fine, sharp crepitation which is almost pathognomonic of pneumonia in the adult, is rarely heard in children under three or five years of age; and when heard, it is a louder, coarser, moister râle, resembling in character crepitation *redux* or a fine subcrepitant râle.

Vocal fremitus, which has such diagnostic value in the adult, is less trustworthy in the child. Very often it is absent from both sides of the chest, and sometimes seems to be more marked upon the sound than upon the diseased side. When it is found *only* on the *diseased side* it, of course, becomes a valuable indication of solidified lung. The physical signs of consolidation are, as a rule, however, sufficiently marked in a croupous pneumonia affecting the youngest child to enable you with proper care to reach a correct diagnosis. But in the catarrhal form the physical signs are less distinct, excepting as they reveal the ever-present bronchitis, and upon them *alone* it would often be impossi-

ble to build up a diagnosis. The nature of lobular pneumonia offers a ready explanation of this fact. In the common form of the disease, the lung is studded with pneumonic patches, varying in size from a pea to a filbert, each consisting of one or more lobules separated from each other by a network of healthy crepitating lung tissue. If, as often happens, several contiguous lobules are involved so as to cause consolidation of a considerable area, the physical signs are very pronounced and unmistakable. Physical exploration alone, will only in exceptional cases enable you to decide, whether the solidification in a given case is due to simple collapse of lobules in the course of a capillary bronchitis or to pneumonic patches. The exceptional cases are when the signs fluctuate under examination or within short periods: for instance, dullness, and bronchial respiration, which would disappear after severe coughing, would positively indicate collapse. The diagnosis of a lobular pneumonia must therefore be largely made from the history and symptoms, reinforced or not by the physical evidences of consolidation.

If in the course of a simple bronchitis, the fever is suddenly increased, the cough becomes hacking and painful, the breathing more labored and the pulse-respiration ratio altered, the accession of a catarrhal pneumonia is very certain, and if now, in addition to the ordinary bronchial râles, you can detect localized dullness, tubular breathing, and other signs of solidification the chain of evidence is complete.

Catarrhal pneumonia is usually a bilateral disease, and a characteristic form for the solidified portion to take is that of a pyramidal strip extending two or three inches along each side of the spine, resembling in these respects simple lobular collapse. The thermometer renders invaluable aid in differentiating between capillary bronchitis and its sequelæ, catarrhal pneumonia and lobular collapse.

Capillary bronchitis is normally attended with only moderate febrile movement, the mercury fluctuating between 102° and 103° F. A sudden exacerbation of fever in the course of a bronchial catarrh, in which the thermometer registers 104° F. or higher, strongly suggests the onset of a pneumonia, while a sudden and marked fall of the mercury without a corresponding improvement in the other symptoms points to lobular collapse.

There are other peculiarities to which attention might be called, but we have probably said enough to convince you that infantile pneumonias are worthy of your earnest and conscientious study.

## ORIGINAL ARTICLES.

### THE INFLUENCE OF DOSE ON THE PHYSIOLOGICAL AND THERAPEUTICAL ACTION OF REMEDIES.

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IN the study of physiological therapeutics, hitherto, not sufficient attention has been given to the subject of dose as a factor in the results. It is true, we find references here and there to the differences of action thus produced, but it is not given the fundamental importance properly belonging to it. With a view to my own instruction, I have, during the past year, been making some experimental studies in this direction. I attempted, more especially, to ascertain if there are any general formulæ, by the aid of which we can more successfully interpret the influence of quantity over qualitative actions. The



conclusions at which I arrived I put in the form of postulates, and the experimental and clinical evidence will follow.

*Medicines acting on a part, a tissue, or an organ, can only increase or diminish the normal function, and cannot give to the function a new direction.* For example, atropia increases the action of the heart and digitalis slows it, but neither can make the heart perform any other duty than its own.

*The irritability—that is, the power to react to impressions—of a tissue or an organ, may be increased, or diminished, or destroyed, by medicines affecting function. Those medicines which increase irritability, must, if their effects continue, ultimately cause the same results as those lessening irritability from the beginning of their action—for it is a law that, if excitation of a function continue, the irritability of that function will ultimately become exhausted and its action cease.* For example, strychnia increases the irritability of the reflex function, but if its effects continue, the reflex function after a time is exhausted and ceases.

I cannot too strongly insist on the importance of these propositions. The first one is simply an axiom. There is no remedy that creates new functions; not one that does more than increase, or lessen, or destroy function. There are remedies which cause morbid states; but these derange function—briefly, it may be, heighten the activity of particular organs, and ultimately destroy the power to functionate; yet they do not force the organs into new modes of activity. A careful survey of the whole field of remedies will only bring confirmation to this proposition, and I therefore pass on to the next.

The property of *irritability*—which I have defined to be the power to react to impressions—is possessed by all organs. When a motor nerve is irritated, the muscles to which it is distributed contract; when a sensory nerve is irritated, pain is caused; when a gland is irritated, its secretion is increased. It is no less true that persistent irritation, or stimulation, ultimately destroys the power to functionate—in other words, arrests function. The proofs of this are unanswerable. If a motor nerve is long irritated, the muscle first contracts, then tetanizes, and finally the nerve ceases to convey any impression, and the muscle relaxes or is paralyzed. If a sensory nerve is subjected to permanent irritation, pain is first produced, then numbness, and finally analgesia and anæsthesia result. If a gland is persistently stimulated, at first the normal secretion is increased in amount, then a pathological secretion is produced, and, finally, the gland strikes work entirely. The whole matter is resolved into the physical law—“*To every action there is an equal and opposite reaction.*”

The action of strychnia, which I have given as an example, is a striking illustration. If  $\frac{1}{100}$ th grain of strychnia be injected into a frog, the most characteristic tetanizing action follows. So acutely exalted is the reflex function, that the merest jar of the table will cause a general convulsion, the body being strongly rigid. Now, if into a frog of the same size, three grains of strychnia be injected, there may be no convulsions, or very transient slight spasms, but

the whole body will be completely relaxed, and no irritation will cause muscular action. The explanation is obvious. Persistent irritation of the reflex and motor apparatus finally exhausts its irritability. A mere scratch, or a blow with the hammer, will destroy the magnetic property of a permanent magnet. There are remedies such as curara, conium, and the bromides, that do not stimulate, but depress the spinal functions from the onset of their action. It follows, then, that those remedies which first stimulate, and afterwards depress, act in the same way, if their effects continue, as do those remedies which depress from the outset.

Such different, and even opposing, action of the same remedy may result from dose. We have seen that in strychnia; it is true of many other remedies as well. We can only understand how such differences of action may occur by the light of the general principles which I have enunciated. Let me now offer some examples:

*Quinia*, one of the most important remedies, exhibits marked qualitative differences when administered in small and large doses. Does quinia increase or lessen the intracranial blood-supply? is a question which has been much discussed. Those who have given it in small doses—say from two to five grains every four hours—have seen the pulse increased in force and frequency, the conjunctivæ injected and retinal vessels full, and the activity of the functions, generally, raised above the usual level. They hold, therefore, that quinia increases the intracranial circulation. Experimental evidence has been adduced in support of the clinical. The cerebral meninges of animals exposed, the membranes are seen, under the action of quinia, to become more vascular, and the cephalæmadynamometer registers higher intracranial blood-pressure. The very opposite conditions are observed when large doses are administered—say a drachm or more. Then the pulse is slowed, the face grows pale, the retinal vessels become small, and there is much of that tinnitus and vertigo significant of cerebral anæmia. The experimental evidence is in harmony with the clinical: the cerebral meninges are pale, exsanguine, and the blood-pressure is low. Still more conclusive is that accidental experiment made on man: the quinia amaurosis—in which there is an extreme pallor of the optic disks, the vessels of the largest size appearing as minute threads, and large numbers of vessels usually in view have disappeared. Several examples of this kind have been observed by Knapp, and other ophthalmologists, after the exhibition of large doses of quinia.

The antipyretic effect of quinia is now universally admitted, but a strange misconception exists in the minds of some as to the quantity required. That the normal temperature is depressed by quinia, is true only of enormous doses and to a slight extent, but the rise of body-heat produced by active exercise and by the febrile process, is prevented by scruple to drachm doses, but not less will succeed. To give small doses at short, regular intervals, to stimulate the organic functions, and large doses to lessen their activity, is a strictly logical process. The mechanism is not difficult to comprehend,



aided by the formula I have given. We need not fall back on that convenient, but entirely hypothetical and supposititious heat-centre. There is chemical activity enough, surely, to account for heat-production; and for its regulation within normal limits the provision is complete. In the slowing of the blood-current, and diminished amount of blood distributed; in the lessened activity of the red blood-globules, and the consequent depression of the chemical actions and interchanges produced by large doses of quinia, we have a sufficient explanation of its influence over the heat-function.

Another striking example of the influence of quantity over qualitative actions is afforded us in *alcohol*. The difference in the action of small and large quantities, is the explanation of the alcohol paradox, in regard to which there has been almost endless discussion. That alcohol in moderate quantity stimulates the circulation and increases the activity of the organic functions, are facts now universally held. That alcohol in large quantity slows the heart, lowers the body-heat, and depresses the organic functions, are also facts demonstrated clinically and proved by experiment. Are these facts reconcilable? Alcohol may increase the action of the heart in two modes: by a reflex impression having its origin in an excitation of the nerve-endings in the stomach; or by its own oxidation or combustion in the organism, yielding up force which is utilized by the cardiac motor apparatus, or both modes of action may be concerned in the result. When large quantities are ingested, the stage of stimulation is brief, and is followed by depression, which is seen in the lessened cardiac action, in the lowered temperature, and in the suspension of the cerebral functions. The amount of alcohol is in excess of the oxidizing power of the organism, and the evolution of force, especially of nervous energy, is checked. Indeed, no medicinal agent more perfectly illustrates the physical law—to every action there is an equal reaction. From the therapeutical side, there is no fact of greater importance. Not long since I saw, in consultation, a case of diphtheria in an adult, in which the physician, a very competent man indeed, was trying to raise the pulse up from its low state. He poured in great doses of brandy, and was in despair that the pulse would not rise above 56, and the temperature would not attain a higher point than 98° Fah., the functions generally appearing torpid. I suggested that he substitute a moderate quantity of champagne for the large doses of spirit, and in a few hours a striking change was observed. Who does not recall within the range of his own experience similar examples? This very practical point is a tempting topic for further discussion, but I must pass on to other illustrations of the great law of dose. I will next examine the influence of quantity on the qualitative results of the administration of *opium*.

We often hear the statement that opium is more stimulant, and morphia more sedative. Although there is a small measure of truth in this formula, the difference lies rather in quantity. Opium may, I think, be justly regarded as the most powerful and sustained stimulant that we possess; at the same time

it is the most efficient remedy against the first stage of the inflammatory process. The stimulating effect of opium is well exhibited in its antagonizing action of those remedies which cause death by failure of the heart, notably atropia, aconite, veratrum viride, etc., and in its preventing failure of the weak, dilated, or fatty heart. To obtain the stimulating effect of opium, all the world knows that it must be given in small and repeated doses. Of course, when the impressionability of the system has been reduced by the opium habit, the merely stimulating dose corresponds. Large doses slow the heart, raise the peripheral tension, and thus lessen the blood-supply to organs and tissues. These effects can be admirably shown by the sphygmograph, when properly adjusted. If a normal tracing is first taken, and then morphia injected subcutaneously, the instrument kept in position, obviously, the conditions being the same, the change in the tracing must represent the action of the drug. Tracings taken in this way exhibit very striking changes,<sup>1</sup> indicating the effect of morphia on the rate of pulsation, and on the tension of the vessel. There has been an enormous clinical experience, also, proving the power of opium in full doses to check inflammation by diminishing the blood-supply to the inflamed tissues. This mode of treatment has been carried to its utmost limits by Dr. Alonzo Clarke in the treatment of peritonitis—carried to the point of narcotism, with a reduction of the pulse to 40 per minute. There are two practical points which I should not fail to mention in connection with this treatment: 1. The utility of opium as a remedy for inflammation, is limited to the stage of congestion, and ceases when stasis and exudations occur. 2. Those large doses by which so decided a reduction in the pulse-rate is effected, will finally exhaust the organs which were at first stimulated. We should not here, as everywhere, fail to realize that fundamental physical maxim—to every action there is an equal and opposite reaction. No point in the whole circle of the effects of opium better illustrates this principle than the action on the intestinal tube. Opium in small doses stimulates the splanchnic—the inhibiting nerve for the intestine, as the pneumogastric is for the heart—and in large doses paralyzes it; hence it follows that in small doses opium constipates, and in large doses tends to relax. See how admirably the results of the physiological study illuminate and confirm empirical observations!

*Digitalis* affords us another capital illustration of these principles, and, from the practical point of view, their application has an importance that can hardly be overestimated. To confine my observations to the narrowest limits, I will only refer to the effects of digitalis on the heart, and its associated nervous apparatus. The ancient notion of the power of digitalis as a heart poison, has been quite supplanted by the modern notion of its power as a heart tonic. There was an element of truth in the ancient, as there is a mischievous fallacy in the modern, notion. Whilst the ancient theory limited the therapeutical applications of digitalis; in the

<sup>1</sup> Treatment of Diseases by the Hypodermatic Method; 4th edition, Philadelphia, 1882.

modern conception of its powers, the danger attending its action is too little regarded. Indeed, from the loose talk about digitalis, one would suppose it to be a heart tonic without limitations. Almost more completely than any other remedy it illustrates the difference between large and small doses; that whilst the former stimulate, the latter exhaust. In moderate medicinal doses it stimulates the pneumogastric and its terminal inhibiting ganglia, and the vaso-motor system. If the stimulation continue too long, or if the dose be too large, the irritability of these organs is exhausted; in other words, it paralyzes the organs which it first excited. When digitalis is given in a quantity to slow the heart decidedly, if the patient assume the erect posture, an extremely rapid and weak action is substituted. A most striking example, as showing the nature of its powers, is the fatal case of digitalis poisoning reported by Boehm. A girl died on the fifth day from paralysis of the heart, after taking a single large dose. The old idea of an accumulation of power and its sudden liberation in an energy that stops the heart, simply means the paralysis which follows overstimulation. In this sense, we may well be on our guard against the "cumulative effects" of digitalis. The practical conclusions to be deduced from these facts are of immense moment: (1) in the administration of digitalis as a cardiac tonic, the dose to be given is the minimum quantity necessary to produce the effect, and (2) this dose must not be continued so long as to endanger the working power of the motor apparatus. Here, I might, if the topic were not foreign to the purpose of this paper, indicate how the principle of antagonism is utilized in the conjoint administration of remedies that oppose the tendency to cardiac depression without interfering with the curative action.

*Pilocarpine*, one of the recent and valuable contributions to our materia medica, illustrates in a most interesting manner the influence of dose. The first effect of this remedy is to excite: the heart quickens its movements, the face becomes flushed, and the cutaneous vessels are so filled that the surface grows warm; then the excitement of the salivary and sudoriparous glands occurs, and a profuse secretion is poured out. Just in proportion to the excitement is the after-depression, in which the temperature falls, the heart languishes, and the organic functions in general become feeble. It is now well known that any dose above that necessary merely to cause the desired activity in the salivary and sudoriparous glands, may produce a dangerous, even a fatal, depression. In the action of this remedy, the physical law has a most exact exemplification—for to the action there is an equal and opposite reaction.

I might thus continue multiplying examples of the influence of quantity over qualitative actions, all drawn from the organic materia medica, and from the group of agents affecting the nervous system, chiefly. It is desirable, however, to seek further illustrations of the same truths from the mineral kingdom, and from remedies having different actions than those involving the nervous system. The group called *tonic* will afford us some excellent

examples. There is no remedy more used; also more abused, than iron. There are but two ultimate purposes subserved by its use: 1, to stimulate the primary assimilation; 2, to promote constructive metamorphosis, or the metabolism of tissue formation. The purpose should determine the dose, and the quantity given will determine the character of the result. When iron is used to stimulate the function of digestion, as a large surface is to be acted on, large doses must be administered. It is perfectly obvious that if the digestive apparatus be continually goaded to increased effort for too great a length of time, a disastrous depression must presently follow. In this fact we have an illustration of the old rule, to suspend occasionally the administration of iron when a long course is carried on, and give a purgative. When the purpose in view is to correct anæmia, to promote constructive metamorphosis, and to energize the organic functions generally, again the dose is determined by the object. Is a recent and powerful but temporary depression to be overcome? the dose must be adequate. Does a more lasting condition of depression in the function of constructive metamorphosis exist, the dose must be one which can be administered for a sufficient length of time without causing an opposing reaction.

Not in a less degree are these principles applicable to the administration of "bitters," and other vegetable tonics. How often do we observe full doses of these remedies administered without maintaining the good effect at first obtained! The first genial excitation of the digestive apparatus ceases under a persistent repetition of the impression. Large doses for a temporary purpose, small doses for lengthened use, should be the formula for our guidance, with the limitation always kept in mind that too persistent and prolonged stimulation of any organ must result in after-debility.

When we extend our inquiry into the class of remedies whose office it is to cause some kind of an evacuation from the body, we discover some interesting facts regarding the influence of quantity. Evacuants have a dual action. There is a preliminary impression on the organ centre or apparatus—it may be sedative; it may be irritative—and is followed by the action of expulsion and increased excretion. By a small or minute dose we obtain the former; by a large dose, we procure the latter. *Calomel* and *ipêcacuanha* are good representatives of the class inducing this double action. It is a fact of daily observation that such small doses of calomel as the  $\frac{1}{10}$  gr. to  $\frac{1}{4}$  of a grain exert a remarkable sedative effect on the stomach and upper intestine. For example, vomiting may be thus arrested when other means fail. For my part, I am unable to subscribe to the doctrine that one grain of the centesimal dilution, or  $\frac{1}{100}$  of a grain of calomel, will have any obvious effect, unless given excessively often, say every ten or fifteen minutes. I place the minimum at  $\frac{1}{20}$  of a grain, with the expression of my conviction that there is little utility in going below  $\frac{1}{2}$  of a grain. Whilst in cases of duodenal catarrh and catarrhal jaundice, considerable doses of calomel irritate not only the mucous membrane,

but the hepatic cells, small doses have an undeniable good effect in allaying irritation.

*Apropos* of the action on the liver, permit me to digress so far as to say that the liver serves to excrete various mineral poisons, which hence tend to accumulate in the hepatic cells, to irritate them, and to impair their functions. The salts of mercury, silver, gold, etc., may be mentioned. These remedies in minute quantity, stimulating by their presence to the slightest extent, promote the activity, the nutrition, and the functional power of the organ. Frerichs mentions the discovery by him of a gallstone having for its nucleus a globule of mercury.

Turning now to *ipecacuanha*, we find that this has in small doses a sedative effect—a stimulating or irritant action in large doses. Small doses will sometimes arrest vomiting of nervous or reflex origin. The homœopaths have made much of this, and claim that to admit it is to admit the truth of their ridiculous dogma of similars. The facts are so susceptible of a truly scientific explanation, that there is no need to have any humbug mysticism over them. The so-called *tolerance*, produced by the repeated use of large doses, means the diminution of irritability, the inevitable result of over or continued stimulation.

Calomel and *ipecacuanha* are not the only evacuants having the dual action to which I have alluded; all possess these properties to a greater or less extent. *Colocynthis* is an excellent illustration of the same truth. Whilst calomel in small quantity allays irritation of the upper digestive tube, colocynthis in minute doses is sedative to the lower—to the ilium especially. As calomel in the minimum dose will allay vomiting when other remedies fail, so colocynthis tincture, in a small dose, will stop intestinal pain and irritation when other remedies are unsuccessful.

Finally, the action of diuretics illustrates the influence of dose on physiological and therapeutical action. Any remedy may serve to point the moral, but, for several reasons, cantharides is to be preferred. The stimulating, irritating quality of cantharides in full medicinal doses everybody knows, but in minute quantity it has distinct sedative effects on the urinary apparatus not so well known. The evidence is clinical. In some cases of irritable bladder, for example, it has a remarkably quieting effect when exhibited in small doses. In chronic catarrh of the genito-urinary tract, the same effect is produced by the same mode of administration.

Thus throughout the whole field of pharmacology, we find that qualitative results are largely influenced and determined by the quantity administered. In fact, so certainly true is this relation, that in the statement of physiological actions and therapeutical results, the quantity of the remedy administered is an essential element, without reference to which exactness is unattainable.

## A CASE OF CHRONIC OTORRHOEA FOLLOWING SCARLATINA.

MASTOID DISEASE; CARIES OF THE BODY OF THE THIRD CERVICAL VERTEBRA; RETRO-PHARYNGEAL ABSCESS; RECOVERY.

(Read before the Union Medical Society of Northern Michigan, May 21, 1882.)

BY F. GUNDRUM, M.D.,  
OF IONIA, MICH.

ON February 28, I was called to see Miss W.; age twenty-five; native born.

*History.*—Parents of this patient are strong, healthy English people. The patient possessed good health until eight years ago, being large and strong for her age. Eight years ago she contracted scarlatina, of which she was very ill. She finally recovered from the acute attack, but with shattered health and a discharge from both ears. This ceased in the left ear about eighteen months ago, but has continued in the right up to the present. Hearing has become very indistinct in both ears, so much so that without artificial aid she is scarcely able to hear the loudest conversation. Since about a year and a half ago, a pain has developed in the right auditory meatus and region of the mastoid, laterally extending into the base of the skull and cervical region. This has gradually increased in severity, until at times it is excruciating. A jar, while walking or riding, for the last two or three months, has produced such severe pain in the base of the cranium and upper cervical region that riding in a vehicle has been entirely abandoned, while walking is performed with extreme caution. The movements of the head have gradually become less on account of the pain produced, and recently it has become fixed. For several months past she has had a constant profuse discharge from the pharynx of a tenacious mucus, which she hawks up every few moments. Deglutition has become painful. The discharge from the right ear has become very offensive and dark in color. Her general health has grown from bad to worse. She has gradually wasted away, and, although not tested by the scales, she thinks she has lost one-fourth of her weight. Her speech has become muffled, indistinct, and attended with pain.

She has received treatment for years, both local and general, but without any material benefit.

*Present Condition.*—The patient is a tall brunette; very intelligent. She has an ample osseous frame; all adipose tissue gone.

It is noticed, while the patient is walking around in the room, that she does so very carefully, avoiding all jars, and bending the head neither to the right nor left. Whatever the patient does, she scrupulously avoids jarring the body or moving the head. She can not be induced to "come down on her heels" with any force. The right ear, as noted above, has coming from it a dark, offensive purulent discharge. The tympani of both ears are gone, together with the ossicles. In the left ear cicatrization has taken place; in the right there are numerous granulations in the cavity of the tympanum. The right mastoid process seems to be slightly swollen, which seems to be due to a slightly congested con-



dition of the overlying soft parts. Firm pressure gives slight pain, but percussion elicits nothing abnormal. In the neck, on the right side, commencing about three-quarters of an inch below the mastoid, and continuing down the neck for four inches or more, being most distinct just in front of the sterno-cleido-mastoid muscle, there is a marked diffuse swelling. The overlying skin is normal in color and, seemingly, in temperature. It is painless upon deep pressure. It is boggy, but fluctuation could not be made out with certainty. The muscles controlling the movements of the head are abnormally rigid, which is increased when any attempt is made to move the head. None of the cervical vertebræ show any undue prominence, but pressure of the spinous process of the third and fourth produces severe pain in the right side of the neck and right base of skull.

Pressure on top of the head, directed perpendicularly, gives severe pain, while any manœuvre to rotate it is resisted. When the head is raised by placing one hand under the chin and the other under the occiput immediate relief is obtained, and then slight movements of the head can be made without the least pain. The posterior pharyngeal wall is covered with a tenacious mucus, and seems to be pushed forward, lying against the relaxed soft palate. This forward displacement struck me with great force (it is the first case I ever saw), and aroused my suspicions at once. Having patient open her mouth as wide as possible, I passed my finger against the posterior pharyngeal wall, when I got distinct fluctuation—it was deep, but distinct. To confirm my conviction, I passed an aspirating needle and obtained nearly four ounces of thick, tenacious pus. The pharynx assumed a normal shape, the wall receding to its former position. To our great surprise, when we had finished the aspiration, it was noticed that the swelling in the neck had all subsided. The aspiration afforded our patient great relief. Her speech became nearly natural and painless. Deglutition was performed with ease and comfort. The patient's general condition is bad in the extreme. She looks sallow, emaciated, and careworn. She has no appetite, and if she ever feels like eating anything, the pain deglutition produces almost gives her the horrors. She sweats at night. Sleep is almost unknown, from the pain in the neck and the constant accumulation of mucus in the throat. The temperature is  $102^{\circ}$ , and the pulse 116.

The patient was ordered syrup of hypophosphites of quinia, iron, lime and strychnia, cod-liver oil, old stock ale, daily bathing, and as much air and sunshine as the weather would permit.

*March 9.*—The patient has improved but slightly. She could not retain the cod-liver oil in any form. The temperature has ranged between  $100^{\circ}$  and  $103^{\circ}$ ; pulse 100 to 120. The post-pharyngeal abscess has refilled. The soft tissues over the right mastoid process seem to be more swollen than at my last visit. Mastoid disease had been strongly suspected by the lady's brother, Dr. C. W. Wooldridge, and having good reasons to share his suspicions, I determined to open the mastoid and see. Accord-

ingly, assisted by Dr. S. V. Romig (who gave the anæsthetic and assisted), I made the usual incision through the soft structures, and by aid of Sayres' periosteal knife, raised, after dividing it, some of the periosteum. After laying bare a portion of the process, I discovered a small opening in it. Unmistakable evidences of ulceration were present. This opening was enlarged, the bony tissue being very friable and breaking down easily, until a free opening was made. The process bled freely. No loose bone could be detected. The mastoid showed unmistakable evidence of a protracted inflammation and ulceration. Quite a quantity of the brittle, inflamed cancellous structure was removed—scraped out—considering it better out than in.

With a hope, if possible, of finding a communication between the mastoid and abscess in the neck, I made every attempt with probe and warm carbolized water and syringe to find it, but in vain. After hemorrhage had ceased, the mastoid was thoroughly cleansed with a five per cent. solution of carbolic acid, a drainage tube inserted, and the wound closed. A two and a half per cent. solution was prepared to be used once in two hours through drain-tube. Morphia in sufficient doses was ordered. The patient rallied well from the operation.

*24th.*—The patient has entirely recovered from the operation, and is up and around. Her general health seems to be slightly improved. The pulse and temperature are about the same; pain in the mastoid gone, but as much pain as ever in the cervical region. There is a sweet, purulent discharge from the drain-tube. The post-pharyngeal abscess having filled up again, it was aspirated with same results as before. The swelling in the neck, which had reappeared, disappeared again; the drain-tube was removed and left out; a solution of carbolic acid and chloride of zinc was prepared, and mastoid to be washed out with it. The following pill was ordered:

R. Iron by hydrogen,	. . . . .	3j.
Quin. sulph.	. . . . .	gr. xlviii.
Ex nux vom.	. . . . .	gr. vj.
Hypophosphite of lime,	. . . . .	3j.

M.—Make into 24 pills; 1 three times a day, after meals.

I had made up my mind that there was disease of the third or fourth cervical vertebra; which one I could not positively say, as pressure on both their spines produced pain, but more especially on the third; and as no projection had as yet taken place, to prevent a deformity was the great desideratum. I operated on mastoid before applying a jacket, so that patient would not be compelled to keep the bed with a jacket and jury-mast; so as soon as the patient got in tolerable shape, eleven days after the operation, I put on the jacket.

On the 20th of March, assisted by Dr. Wooldridge, I applied a plaster-of-Paris jacket and jury-mast. I wanted to save the father the expense of a skin-fitting shirt, and told him to buy an all-wool undershirt from a dry goods store, and have the mother fit it accurately. After reaching the house, nine miles in the country, it was found that the shirt

fitted "like a nigger's shirt on a bean-pole" (Sayre). It had to be made over, and by the time we got the shirt fitted, our poor patient was tired out. I advise all who ever expect to put on a plaster jacket to have a skin-fitting shirt made to order. It is the first time that I ever tried this economic plan; it shall be the last. After fitting the patient as well as possible, I found her so emaciated that it became necessary not only to pad around bony prominences, but to envelop the whole trunk in a layer of cotton. This was the most emaciated subject on whom I ever saw a jacket applied. Having only one assistant, the time occupied was somewhat longer than usual, during which time our patient became very faint. Had she not been an iron-willed girl, our efforts must have been a failure. After the jacket had set, and the patient had rested, her head was suspended, which relieved all pain in the neck. A complication soon came on which I never saw before. The articulations in the lower maxilla became very sore, and the jaw became almost stiff; no solid food of any kind could be taken; mastication was entirely suspended, although the pressure was varied from time to time. \* (The patient, since the application of the plaster, was almost under the entire care of her brother; I was consulted occasionally.) The father's ingenuity came to her relief. He took a small piece of iron, fastened it to the jury-mast, where it passed horizontally over the head, so as to project beyond the face several inches; to this he fastened a strap, and the other end to chin-piece. This remedied the difficulty entirely. Since the application of the jacket the patient has steadily improved; she has nearly regained her former weight and strength. The mastoid has closed up; the ear ceased to discharge; the post-pharyngeal abscess has not refilled. All pain in neck and mastoid process has disappeared, and Dr. Wooldridge, as well as myself, consider the patient entirely cured.

P. S.—She wears the jacket only during the day, having made it into a corset, more for a protection than anything else.

#### LITHOLAPAXY IN A WOMAN.

By EDWARD T. CASWELL, M.D.,  
SURGEON TO THE RHODE ISLAND HOSPITAL, PROVIDENCE, R. I.

SINCE the introduction of Dr. Bigelow's brilliant procedure for the removal of stone in the bladder, allusion has been made by several writers to its adaptability to women. As I have seen no notice of any case in which the operation has been performed upon the female, I venture to report one. The procedure presents great advantages over the methods previously in use, which may be summed up as removal of the entire stone through the dilated urethra, or by cystotomy. By the first of these methods a greater or less degree of incontinence is likely to ensue, and the second involves the closing of the wound in the bladder, with the possible risks of a vesico-vaginal fistula. In comparison with either of these, the operation of litholapaxy is far preferable. The facility of execution, and the entire freedom from after-effects, are sufficient to commend it at once to the surgeon.

This case was the ninth of my series, the rest of course being in males, and the difference between the operation in the two sexes was much greater than I had imagined. The following is the record:

Mrs. L., aged 51, English, has been in this country but six months. Nine years ago she passed the first stone, and several at different times since, all of them small. The last was passed in January, 1880. She has suffered from the present stone for four months, and complains of pain, frequent micturition, with blood and thick mucous discharge in the urine. The pain, while in my office at a preliminary visit, seemed excruciating. The stone was of course easily felt both by the sound in the bladder and by the finger in the vagina. Having etherized her, I dilated the urethra by the passage of conical steel sounds up to 29 Fr. A modified Thompson's fenestrated lithotrite, and one after a model of Dr. Keyes, were both used. The fragments were evacuated through a straight tube, 28 Fr., which passed with the utmost ease. The only drop of blood visible in the operation was at the meatus after the introduction of the No. 29 tube in dilatation. The fragments weighed when dried 100 grains, and the character of the stone was phosphatic. Four days after the operation, Dr. Kemp, of Lonsdale, whose patient she was, wrote: "She has not had an unfavorable symptom, and would be up and about her work but for a slight attack of diarrhoea." The operation occupied less than forty minutes.

In looking back at it I am inclined to think that the patient but for the ether might have left the table and resumed her calling. Certainly, the advantages over the other methods are evident, and I believe that even smaller stones would be much more easily removed by this method than by any other.

#### A CASE OF ANEURISM OF THE ARCH OF THE AORTA, WITH MARKED SYMPTOMS DEPENDENT UPON THE ANATOMICAL SITUATION OF THE TUMOR.

By JNO. B. DEEVER, M.D.,  
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MR. L., whose age is 49, occupation a paper-hanger, presents some form of mediastinal growth, the most likely, I think, to be aneurism of the arch of the aorta. When learning his history, I find he had acquired syphilis, which beyond doubt is one of the most fertile causes of aneurism. My idea in reporting this case is not on account of its medical interest alone, but more particularly from an anatomical point of view, as it serves to demonstrate how important it is for the medical man as well as the surgeon to have a thorough knowledge of topographical or regional anatomy, and particularly of visceral anatomy.

The diagnosis of mediastinal tumor has been made from the symptoms resulting from the pressure of the tissues surrounding the arch of the aorta. How can we tell when these surrounding tissues are pressed upon? First, by a knowledge of the relational anatomy of the parts, and, secondly, by a knowledge of their functions. In calling attention to the signs, symptoms, and their

most probable cause, I will mention the most prominent; first, the great amount of dyspnoea, the great distress in breathing when the patient attempts to lie down (orthopnoea), also while in this position the distention of the veins of the head, neck, and upper extremities, especially those of the left side, the harsh blowing breathing heard over the left chest posteriorly, the dry, hacking cough, which is made much worse when the patient attempts to recline, the oedema of left upper extremity, left side of head and neck, the oedema of feet and legs, the enlargement of the liver, the characteristic blowing sound heard over the course of the arch which is transmitted down the aorta and up into the carotids, the impulse communicated to the hand by making pressure on the sternum over the position of the arch. By passing over the supra-sternal fossa, pulsation of the arch is readily felt.

The dyspnoea is due, I think, to the enlarged and displaced heart. The position of the normal heart is in the middle mediastinal cavity, the greater part of it to the left of the median line of the sternum; its axis is obliquely from right to left; the base corresponds to the line of junction of the third costal cartilage with the sternum, and apex to the space between the fifth and sixth ribs, two inches below the nipple and one inch to its sternal side. In the case before us the axis of the heart is changed, instead of running obliquely from right to left, it runs directly downwards. The apex is at the bottom of the sternum, in the epigastrium; the base corresponds to the line of junction of the fourth costal cartilage with the sternum. The displacement, I consider, is due to the enlarged transverse portion of the arch of the aorta. To ascertain the cause of the suffocation when this man attempts to lie down, let us follow the course of the arch from its commencement and see what important tissues are in relation to it. The arch consists of three portions, an ascending, transverse, and descending. The first or ascending portion commences on the left of the sternum, behind the pulmonary artery, on a line with the junction of the third costal cartilage with sternum, the line corresponding to the base of the heart, from which point it proceeds upwards and outwards, to the right side, in the direction of the axis of the heart, till it reaches the lower part of the first intercostal space or the upper border of the second costal cartilage, when it turns to the left, becoming the second or transverse portion; this portion passes from right to left and from before backwards, about one inch behind sternum and one inch below upper border of the sternum, till it reaches the left side of the second dorsal vertebra, when it turns downwards to become the descending portion, ending at the lower border of the body of the fourth dorsal vertebra. Passing above the transverse portion of the arch from the left to the right, is the left brachio-cephalic or innominate vein, the vessel that returns the blood from the left side of the head and the neck, and the left upper extremity; passing over it is the left phrenic and pneumogastric nerves, the latter being the one that interests us in this particular case; beneath it is the bifurcation of the pulmonary artery and the left bronchus, and

behind the trachea, oesophagus, thoracic duct, and the deep cardiac plexus of nerves. From the relation the transverse portion of the arch of the aorta bears to the trachea, it is very readily seen that when the patient lies down, that this portion of the vessel, if enlarged, would press upon the trachea, as the trachea bifurcates opposite the third dorsal vertebra, and the artery passes in front of the second dorsal vertebra, giving rise to orthopnoea, which is a marked symptom in this case.

Again looking at the relation this portion of the vessel holds to the left innominate vein, we have the explanation for the great distention of the veins of the left side of the head and neck, and the left upper extremity when the patient is in the horizontal position, and also for the oedema of these parts, for beyond question there is slight pressure constantly upon this vein. Within the concavity of the arch of the aorta is the left bronchus; this is pressed upon, the result of which we hear harsh and blowing breathing over the left chest posteriorly. The dry, hacking cough is purely laryngeal, there being no pulmonary trouble other than slight passive congestion at the bases of the lungs, and is caused by the pressure of the tumor upon the left recurrent laryngeal nerve. The recurrent laryngeal nerves, two in number, are branches of the pneumogastrics; the left recurrent nerve winds round the arch of the aorta, the right around the subclavian artery, first part, after which they ascend the neck in the groove between the trachea and the oesophagus to enter the larynx behind the crico-thyroid articulation; therefore it is very evident that enlargement of the transverse portion of the arch of the aorta would press upon the left recurrent laryngeal nerve, resulting in irritation of the parts supplied by this nerve, namely, the mucous membrane of the larynx. The enlargement of the liver and the oedema of the feet are due to the obstruction to the return circulation, a portion of which is effected by the pressure of the heart against the ascending vena cava.

1610 VINE STREET.

## HOSPITAL NOTES.

### GERMAN HOSPITAL, PHILADELPHIA.

(Service of DR. J. M. BARTON.)

#### LIGATION OF FEMORAL ARTERY FOR POPLITEAL ANEURISM.

(Reported by L. D. BROSE, M.D., Ph.D., Resident Physician.)

H. M., German, æt. thirty-five, married, laborer, gives history of primary syphilis, acquired in 1866. Last December he first noticed a swelling at the back of the right knee; this swelling slowly increased in size, throbbled, and was very painful; the patient, thinking he had rheumatism, on February 2 presented himself in the out-department of the German Hospital, suffering very much from an inflamed condition of this enlargement, so that he was obliged to use crutches. The outline of the swelling was much obscured by the existing cellulitis; but a marked expansive pulsation could be detected, occurring with the systole of the heart. The patient was advised to remain at home on his back until February 24, when he was admitted into the German Hospital. The aneurism could now be made out distinctly of a fusiform character, and measuring some



five inches in length. On auscultation, a distinct, rasping bruit could be heard occurring with the heart's systole, and transmitted a short distance below the tumor. The foot was swollen, very cedematous, and the pulsation in the posterior tibial, behind the internal malleolus, was hardly perceptible. Forced flexion of the knee failed in any manner to control the pulsation. The patient was placed in bed, and put on the tincture of veratrum viride, one drop every four hours. This treatment reduced the pulse rate from 104 to 84 beats per minute, but did not diminish the size of the enlargement.

*February 27.*—Dr. Barton resorted to compression of the femoral artery by means of bags of shot placed on the vessel and retained in position by a number of convalescing patients, who changed watch every hour. Twenty-two pounds were found after trial to be the smallest weight that would control the aneurismal pulsation. The compression was kept up for four hours, at the end of which time it was discontinued, owing to the incompetency of the assistants, who failed to retain the bags in position, thus allowing every few minutes a return of the circulation through the aneurism. Morphia, during this time, was freely administered to relieve the patient's sufferings. At the time of abandonment of the pressure, the patient was much exhausted and prostrated. The surface temperature of the limb, being taken every half hour, gradually fell from  $97^{\circ}$  to  $94.4^{\circ}$  at the time of our removing the shot. The axillary temperature on the morning of the compression was  $99.1^{\circ}$ , and the evening temperature  $99.4^{\circ}$ , the pulse also increasing somewhat in frequency. No perceptible impression was made on the tumor, and, on *March 1*, Dr. Barton again suggested a trial of shot compression, choosing as assistants Dr. Raab, the medical resident, the surgical nurse, a very intelligent man, and myself. The shot was increased to twenty-five pounds, and from 1.30 P.M. until 6.30 P.M. not a single pulsation went through the aneurism. The compression was kept up until 8.30 P.M., with almost equal success, when, no impression having been made on the tumor, it was discontinued, leaving the subject much prostrated and exhausted. Morphia, during this time, was again freely administered, and the patient encouraged to keep on with the treatment. The surface temperature was taken every hour; at two o'clock it registered  $96.4^{\circ}$ , and then gradually fell to  $93.6^{\circ}$  at five o'clock, and reached  $92.3^{\circ}$  at six o'clock. After this hour, the temperature rose, owing to several pulsations going through the aneurism, until at 8.30 the thermometer registered  $95^{\circ}$  Fahr. The axillary temperature on the morning of the compression was  $100.2^{\circ}$ , and the evening temperature  $102.2^{\circ}$ . The tumor continued increasing in size, now reaching some six inches in length, and at a consultation of the surgical staff it was decided advisable to ligate the femoral artery in the apex of Scarpa's triangle, under the Sartorius muscle. The patient was now put on nourishing diet, and prepared for the operation, which was performed *March 14*, Dr. Barton using the animal ligature and thorough antiseptic precautions. In making the incision, one small superficial vein was severed and secured by a silk ligature. The wound was brought together by a silver wire, reinforced by adhesive strips, and the patient returned to his bed with the leg carefully wrapped up in cotton batting. The patient came from under the influence of the anæsthetic, and was doing well, until between seven and eight o'clock, when I was called to allay an attack of vomiting. Examining the wound, I found it distended with blood; some five ounces had escaped, which appeared venous in character. The retching and vomiting being allayed, the bleeding discontinued of its own accord. The surface thermometer registered a temperature of  $92.6^{\circ}$  seven hours after the

operation, and the axillary temperature was  $97.2^{\circ}$ . Next morning the clot in the wound was found to be very firm and much diminished in size, so that it was decided best not to open the wound, but trust to its reabsorption. During the day, the surface temperature ranged from  $96^{\circ}$  to  $96.6^{\circ}$ , the axillary temperature from  $100^{\circ}$  to  $101^{\circ}$ . The next two days the clot remained stationary, but on the third day it showed evidences of breaking down, the wound commenced discharging pus, and the surface temperature rising from  $98^{\circ}$  to  $99.5^{\circ}$ , with a corresponding rise in the axillary temperature from  $100^{\circ}$  to  $102.5^{\circ}$ . On the fifth day succeeding the operation, cellulitis manifested itself, the thigh becoming red, swollen, and much lymph being deposited around the seat of ligature. The lowest stitch in the wound being removed, a large amount of pus and broken-down debris of the clot escaped. Poultices were applied over the wound, dispelling the cellulitis and establishing a free flow of pus. From this date until complete closure of the wound the surface and axillary temperature gradually fell to normal, the patient making an excellent recovery, and was discharged from the house *April 22*.

The blood clot and the resulting pus deposits probably occupied a cavity entirely superficial to the artery. No portion of the ligature has been seen since its application, though the discharges were carefully examined for this purpose.

*May 26.*—The patient reported himself in the out-department, walking without artificial aid, the tumor having almost completely disappeared, and the lymph around the seat of ligature having been entirely reabsorbed. Since the moment of application of the ligature there has been no return of pulsation in the aneurism, but the pulsation of the posterior tibial, behind the internal malleolus, can not be detected in the operated limb.

## VIENNA GENERAL HOSPITAL.

(Service of PROF. BAMBERGER.)

### A CASE OF LEUKÆMIA.

(Specially reported for THE MEDICAL NEWS.)

THE patient, forty-nine years old, moderately thin, has suffered for a long time from cough and severe dyspnoea, is deaf in both ears, and gives as the cause of his sickness residence in a damp dwelling. The sick man lies in his bed in an apathetic condition, the red hue of his cheeks contrasting strikingly with the earthy color of the remaining portions of his body.

Examination gives the following condition: Tongue, coated; tonsils greatly enlarged; the mouths of the follicular glands covered with a caseous mass. The radial artery has undergone atheromatous change, is hard, firm, and tortuous. Large masses of lymphatic glands are found upon the neck, which are swollen, movable, resistant, but not painful. The axillary and inguinal glands, as well as those lying under Poupart's ligament, and generally termed Rosenmüller's glands, exhibit a similar condition. The ear-drum, in consequence of previous otitis media, is perforated upon both sides. The lungs are perfectly normal, as also temperature and urine. Heart and liver somewhat elevated. Area of cardiac dulness is increased in breadth. The spleen exhibits a particularly striking change; this organ has reached a size from seven to eight times its normal volume, and its inner, sharp, indented border can be distinctly palpated, while its lower, rounded border extends far beyond the left hypochondrium. That this resistant tumor, which has displaced downwards the lower portion of the abdominal contents, is the spleen, is proved by the fact that its motions are synchronous with respiration.

A drop of blood removed from the finger by the prick of a needle shows, under the microscope, an astonishing increase in the number of colorless blood-corpuscles. The white blood-corpuscles, finely granular, and differing in size, about equal the number of red corpuscles. It is plain from this cursory glance at the case that we are dealing with a case of leukæmia.

A moderate increase of the colorless elements of the blood occurs in a number of most diverse diseases, without causing important troubles. Intermittent fever, typhus, the puerperal process, alcoholismus, carcinomatous dyscrasie exhibit a relative increase in the white corpuscles. In such blood, acetic acid, formic acid, xanthine, and similar chemico-pathological substances are usually found. According to the locality of the formation of the white blood-corpuscle, it is customary to differentiate between a splenic, lymphatic, and myelogenic leukæmia. These different forms of the same general process occur in point of frequency in the order of their enumeration. In the majority of cases the first two forms are combined, but all three forms are united in our patient; for when we examine the bony system, although we find the bones of the cranium and of the extremities in normal condition, yet the sternum and single ribs are sensitive to very moderate pressure. Experience, moreover, has taught us that these are the bones generally affected in myelogenic leukæmia, and that it is very seldom that the long cylindrical bones are concerned in the production of white corpuscles.

The etiology of the affection is in most cases, as in this, very obscure, yet the fever dyscrasia seems to favor the origin of leukæmia. It is not at all necessary that leukæmic individuals should appear pale and anæmic; it occurs very frequently that their disease cannot be guessed at first blush. Patients complain most of dyspnœa, without there being any abnormality of the air passages or of the thorax demonstrable. This dyspnœa is usually explained by the diminution in number of red blood-corpuscles, which furnish to the system the necessary quantity of oxygen. This explanation is insufficient, because the paroxysmal nature of the attacks of dyspnœa in leukæmic individuals remains still obscure. Patients frequently suffer from œdema and continuous bleedings from the most different mucous membranes in this affection.

In the so-called pseudo-leukæmia we find, in fact, similar appearances. We find extensive swelling of lymphatic glands and enlargement of the spleen, but the colorless elements of the blood are not increased; consequently, a positive, differential diagnosis can only be made by the aid of the microscope.

Prognosis is unfavorable, perfect recovery has never been observed. Lethal result follows in consequence of inflammation of the respiratory organs, or of exhaustive hemorrhage and collapse.

Treatment remains for future discovery. The usual preparations of iron and iodoform, alteratives, such as arsenic, are altogether useless. Arsenic in the form of Fowler's solution is only useful in pseudo-leukæmia.

## MEDICAL PROGRESS.

**TWO NEW ANTISEPTICS.**—M. G. LE BON has just presented to the Academy of Sciences two new and very effective antiseptics, the glyceroborate of calcium and the glyceroborate of sodium. Both of these compounds have the advantages of being very soluble, destitute of odor, and free from all toxic action. When exposed to the air they both deliquesce with great rapidity, absorbing from the air an equivalent weight of moisture. Both alcohol and water dissolve twice their own weight of these salts. They are powerful antiseptic agents

even in very dilute solution; the most effective in a therapeutic point of view appears to be the calcic salt. It is absolutely innocuous, and it can be applied in strong solution to so delicate an organ as the eye without bad results. In a hygienic sense both can be employed with advantage as disinfectants and as preservers of meat and other alimentary products. M. le Bon has transmitted meat simply coated with a varnish of the glyceroborate to La Plata, and it has arrived in a perfectly fresh and sound condition. He thinks both salts will prove very useful as antiseptics in Lister's mode of dressing wounds.—*Lancet*, August 5, 1882.

**APHONIA OF SINGERS AND SPEAKERS.**—For this affection DR. CORSON (*Revue Méd.*, April 12, 1882) recommends the patient to put a small piece of borax (two or three grains) into the mouth and let it dissolve slowly. An abundant secretion of saliva follows. Speakers and singers about to make an unusual effort should the night before take a glass of sugared water containing two drachms of potassium nitrate (salt-petre) in order to induce free perspiration. In similar circumstances this gargle may also be used:

R.—Barley water, six ounces.  
Alum, one or two drachms.  
Honey, half an ounce.

Mix, and use as a gargle.

Or, again, an infusion of jaborandi, made by putting two scruples of the leaves in a small cup of boiling water, may be drunk in the morning before getting up. The free sweating is said very quickly to restore the strength of the voice.—*Practitioner*, August, 1882.

**THE COMPOSITION OF THE URINE IN A CASE OF CANCER OF THE LIVER.**—DR. V. C. VAUGHAN and HARRIET C. BERINGER give the following peculiarities observed in an analysis of the urine in a case of hepatic cancer:

1. The small amount of urine was due to obstructed circulation.
2. Urine in cancer of the liver deposits urates colored more or less of a red, and this color becomes darker on exposure to the air.
3. The formation of bile pigments continues even in structural diseases of the liver, which involve nearly the whole of the gland substance.
4. The formation of bile acid is arrested in the latter stages of cancer of the liver.
5. In this formation of bile the functional activity of the liver is concentrated for the most part upon the elaboration of bile acid.
6. Taurin and glycin are formed in the body even when the greater part of the liver is destroyed by abnormal growth.
7. Unoxidized sulphur (partly or wholly in the form of taurin) is present in the urine in large amount.
8. Their experiments indicate the two-fold origin of urea. The amount of urea is reduced to a minimum, and then remains stationary until death.
9. The quantity of uric acid is increased, and urates are deposited.
10. The phosphoric acid remains about the same in quantity as in health.
11. The sulphates and chlorides are greatly diminished.
12. Leucin and tyrosin appear and may be detected by microscopical inspection, after concentration, and may be approximately estimated by the method given.—*Physician and Surgeon*, August, 1882.

**PURIFIED TOW FOR ANTISEPTIC DRESSINGS.**—MM. WEBER and THOMAS, of the French Army, assert that the desiderata of an antiseptic dressing for military

surgeons are—(1) absolute purity; (2) perfect whiteness and cleanness; (3) elasticity, smoothness, and softness; (4) great absorbent power, both of secretions from wounds and of antiseptic agents; it should (5) efficiently filter the air; (6) be antiseptic; and (7) cheap. They assert that they have prepared some purified tow which answers all these requirements thoroughly. Commercial tow is dirty, harsh from the presence of much woody fibre, and non-absorbent. This commercial tow is first dusted and tied tolerably firmly in packets, which are then soaked in water for twenty-four hours; they are then wrung out and placed in cast-iron pans, and a solution of caustic soda is poured on and kept just boiling for half an hour. The tow is then put into cold water and repeatedly washed until it has no action on turmeric paper. Subsequently it is immersed for half an hour in a solution of hypochlorite of sodium, and again washed in cold water as before. After soaking for twenty-four hours in cold water the latter is pressed out and the tow is plunged into dilute hydrochloric acid and left for half an hour, after which it is again washed in water and allowed to soak for twenty-four hours and then dried, after which it is carded in sheets or pledgets, or combed. Tow thus prepared is stated to be chemically pure, of perfect whiteness, soft, very elastic, readily absorbent, easily impregnable with antiseptics, and cheap. To render it thoroughly aseptic, it may be impregnated with either carbolic acid or iodine. For the former a solution of three parts of the acid in two parts of alcohol is sprinkled on sheets of filter paper, and these are laid between sheets of the tow and placed in a closed box. At the end of forty-eight hours the acid has all passed into the tow, in which it can be demonstrated under a microscope in the form of minute drops. MM. Weber and Thomas have prepared the carbolized tow of a strength of ten per cent., which they state to be an unirritating dressing and more than sufficiently strong of the acid for surgical purposes. To impregnate the tow with iodine, they expose it to the vapor until it assumes the color of roasted coffee. By similar means creasote, eucalyptus, etc., may be added to the tow. They state that, prepared in moderate quantities, the purified tow costs  $1\frac{1}{2}$  fr. to  $1\frac{3}{4}$  fr. per kilo, or when carbolized 2 fr. to  $2\frac{1}{2}$  fr. per kilo.—*Lancet*, July 29, 1882.

**DECOCTION OF ONIONS IN MILK IN DROPSY.**—DR. RESQUEZ claims to have obtained the greatest benefit in the treatment of various forms of dropsy by the use of a decoction of onions made by boiling in milk.—*L'Abeille Méd.*, July 17, 1882.

**PERSISTENCE OF THE DUCTUS ARTERIOSUS.**—DR. MALHERBE (*Journ. des connais. Méd.*) cites several cases in which this malformation existed without producing characteristic symptoms during life, and enumerates, on the other hand, the symptoms which may fairly lead us to suspect it when they do exist.

The presence of a rough, prolonged murmur, systolic, or changing from systolic to diastolic, and having its maximum intensity at the level of the third left costal cartilage, and propagated up towards the left clavicle, justifies the diagnosis of persistent ductus. The murmur may be accompanied by either a general or a local cyanosis. It differentiates itself from that caused by an immediate communication between the pulmonary artery and the aorta, inasmuch as the latter produces a murmur of an intense thrilling character heard all along the hollow of the back, and loudest of all at the level of the transverse aorta (third and fourth dorsal vertebrae).

Persistent ductus is compatible with perfect development, strength, health, and long life.

One case quoted (age 28) was highly cyanotic, yet

the patient was capable of severe and prolonged toil without respiratory difficulties. Another, a lady of 50, had never complained of anything leading to suspicion of malformation, which was only discovered post-mortem.—*Practitioner*, August, 1882.

**TREATMENT OF LEAD COLIC BY BELLADONNA.**—M. BERNUTZ has been repeating the studies of M. Malherbe as to the tolerance of belladonna in cases of lead colic, and he has found that as much as sixty centigrammes of the powder may be administered in severe cases, and when employed associated with purgatives, a prompt cure usually resulted.—*Rev. de Ther.*, August 1, 1882.

**FATTY TUMORS OF THE PALM OF THE HAND.**—Lipoma of the palm is an infrequent but important affection. The diagnosis is attended with difficulty, for the tumors are often fluctuating; and in this, as well as their slow and painless growth and rounded outline, and the fact that they sometimes extend under the annular ligament, they resemble cysts of the synovial sheaths. When punctured, they do not yield fluid, but, on the contrary, a small pellet of fat may be extruded, which makes the diagnosis certain. The treatment is excision; but this should not be lightly undertaken, as in the palm these tumors do not grow from the subcutaneous fatty tissue, but from the fat under the deep fascia or between the muscles. Indeed, it has been suggested that in some cases they are developed from processes of the synovial sheaths of the flexor tendons, and are comparable with the arborescent lipoma of the synovial membrane of the knee described by Billroth. Great care must be taken to secure union of the wound by first intention, or the apparently simple operation may be followed by extensive supuration in the palm and adhesion of the flexor tendons, with the result of a more or less useless member.—*Lancet*, July 29, 1882.

**ALBUMINURIA AND PEPTONURIA.**—The presence of albumen in the urine is not always due to renal disease, and in many forms of the latter it is often absent.

Albuminuria may be due to, 1. Increased arterial tension in the renal artery, producing active or passive hyperæmia; 2. Different parenchymatous diseases of the urinary organs; 3. Different fevers, such as typhus, variola, scarlatina, etc.; 4. Different diseases of the brain or medulla; 5. Poisoning by various substances, such as cantharides, carbolic acid, arsenic, morphia, alcohol, and phosphorus; 6. Irritation of the skin by thermal, chemical, or electrical agents; 7. Injection into the vessels or introduction into the stomach of large quantities of white of eggs, injection of defibrinated blood or water; 8. Sometimes in good health to violent exercise; 9. Renal ischæmia, compression of the renal artery, and intestinal catarrh; 10. Diminution of the quantity of chloride of sodium by transitory albuminuria.

Peptonuria is observed in profound disturbances of general nutrition, as in acute poisoning by phosphorus. It appears that in this disease the peptones do not come directly from the blood, but are artificial products developed in the uriniferous tubules and after the evacuation of the urine. The peptones result from the urinary digestion of the albumen by a process analogous to gastric digestion, as Brücke has found pepsin, and Potchin a special acid, in the urine, and as it has been found that the transformation into peptones is interfered with by alkalies and a reduced temperature.—*L'Abeille Méd.*, July 24, 1882.

**NAPHTHALINE AS AN ANTISEPTIC.**—Naphthaline has recently found a new and important use in medicine.



It has been found that this hydrocarbon is an excellent antiseptic, which kills fungi and bacteria in a short time. For surgical bandages and in contagious diseases, as far as experiments have been made, it has answered an excellent purpose, and seems well adapted to replace in many cases those antiseptics now so much used, namely, carbolic and salicylic acids, and iodoform. It has one great advantage over carbolic acid, being absolutely free from poison, and can therefore be used in any desired quantity without causing any disturbance. It also surpasses all other antiseptics in cheapness. As 100 kilos of pure naphthaline can be bought for 60 marks (about 7 cents per pound), there is no doubt that it will soon find general use for medical purposes.—*Scientific American*, August 12, 1882.

**SYPHILIS CONVEYED BY SKIN-GRAFTS.**—Another case in which syphilis was conveyed by skin-grafts is reported in Paris by M. FÉRÉOL. It occurred in the practice of M. Deubel; the patient was a man, aged forty-nine, who had not had any venereal affection, and who had a large wound caused by erysipelas with sloughing. Seventy-five dermo-epidermic grafts were put on, nearly all of which "took," and cicatrization was rapidly effected. A month after the application of the first grafts the cicatrix began to ulcerate in several places. Six weeks later an abundant roseolous eruption broke out over the body, and a month later mucous patches appeared in the mouth. One of the sons of the man, who had furnished grafts on each occasion, then consulted M. Deubel for mucous patches about the anus, and stated that eighteen months previously he had had a hard chancre for which he had not had any treatment. The case is apparently beyond all doubt, and shows the necessity for caution in the selection of persons from whom grafts are taken. The safest rule to follow is, wherever possible, to take the grafts from the person on whom they are to be implanted.—*Lancet*, July 29, 1882.

**IODOFORM IN CHRONIC PULMONARY AFFECTIONS.**—PROF. CHIARMELLI (*Giorn. di Clin. e Terapia et Gazz. Med. Ital., Prov. Ven.*, 1882), encouraged by the happy results obtained by Prof. Semmola with iodoform in the treatment of chronic affections of the bronchi, has experimented with this medicine during four consecutive years at the Hospital for Incurables, in many affections of the respiratory passages.

In phthisis, even at an advanced period of the disease with the presence of cavities, iodoform has given the author excellent results. In each case it diminished expectoration, and exercised a favorable influence upon the febrile manifestations. "Iodoform," he says, "diminishes the fever and affects the expectoration, which it not only diminishes in quantity but alters in character, preventing the putrefaction of its albuminoid elements. I am also convinced that the contents of the cavities in the lung exercise a powerful influence upon the production of hectic fever." In recommending iodoform in pulmonary phthisis, the author does not assert it to be a specific, but he claims that it arrests the march of this cruel malady and prolongs the life of the sufferer.

He also holds that in cases where caseous pneumonia is commencing, iodoform administered for a time proves efficacious in arresting the progress of the disease. With many individuals affected with chronic bronchitis and emphysema, it renders great service.

The formula which is employed is as follows:

Iodoform,	grs. iss.
Powdered lycopodium,	grs. viij.
Ext. of gentian,	q. s.
Make into 10 pilules. Take 3 to 5 in the day.	

If the dose is increased, gastric disorders supervene, and it is better to continue the above dose for a considerable time.—*Glasgow Med. Journ.*, August, 1882.

**SPONTANEOUS RUPTURE OF THE STOMACH.**—LANSCHENER (*Wiener Med. Blatt.*) reports the case of a woman, aged 70 years, who for a number of years had had an immense umbilical hernia, who, in an attack of vomiting after copious drinking of water, heard an explosion, experienced a sharp pain, and died in collapse in thirty hours. At the autopsy the small intestine and pyloric end of the stomach were found in the umbilical orifice, only the body of the stomach and the large intestine remaining in the abdominal cavity. In the posterior wall of the stomach there was a rupture more than one centimetre long; the abdominal walls seemed healthy.—*L'Abeille Méd.*, July 24, 1882.

**ELECTRICAL TREATMENT OF ANGINA PECTORIS.**—DR. LÖWENFELD (*Aerzt. Intelligenzbl.*, No. 39, 1881) relates a case of angina pectoris in which galvanization proved beneficial. The patient, a man aged 47, was subject to attacks of the disease occurring every month or two. These were characterized by excited respiration, oppression, small frequent pulse, sternal pain radiating to the left arm, and convulsive tremors of the limbs, and lasted about one hour. The heart was normal. The constant current was applied for one minute to each side of the neck along the course of the pneumogastric. The sense of oppression was immediately relieved. Ten such applications in the course of three weeks were followed by complete freedom from the attacks for more than two years.—*Practitioner*, August, 1882.

**EXCISION OF THE TONGUE.**—MR. CROLY, of Dublin, performs the following operation for cancer of the tongue, even when the disease is situated in the anterior portion of the organ: He first ligatures each lingual artery close to the hyoid bone, through a curved incision reaching from the symphysis down to the hyoid bone, and up and back to the angle of the jaw. Through these incisions he withdraws the tongue, as in Regnoli's operation, and removes the requisite amount of it by the benzoline cautery. Lastly, he divides the gustatory nerve where it lies along the inner border of the jaw-bone.—*Lancet*, August 5, 1882.

**PUERPERAL INFECTION IN THE MALE.**—DR. LAPONI reports, in the *Rivista Clinica di Bologna*, the case of a man who was infected with septic inflammation, after coitus with his wife, who was suffering from puerperal fever, and died seventeen days afterwards.

**LUPUS OF THE LARYNX.**—BREDÁ, basing his results on a great number of observations, to which he adds four occurring in his own practice, arrives at the following conclusions: Lupus of the larynx may be either primary or secondary to a similar affection of the skin, or nasal or buccal mucous membrane; it occurs most frequently in children (though a case in a man, aged 44 years, has been reported), and always in individuals of a lymphatic temperament. Males are less frequently attacked than females. In the larynx, lupus is most often found in the epiglottis, then on the aryepiglottic fold; in two cases only (Virchow, Thomas) did the process involve the trachea.

This disease is principally evidenced by affections of the voice, usually leading to complete aphonia. It is unusual to see it accompanied by any general nutritive disturbance; acute oedema of the larynx, threatening suffocation, may occur; oftentimes no troubles of deglutition or local pain are present.—*Journ. de Méd. de Paris*, August 5, 1882.

**ATROPIA AS AN ANTIDOTE TO PILOCARPINE.**—DR. FROHMÜLLER reports a case in which the hypodermic injection of 0.02 grm. of the muriate of pilocarpine, in a man aged eighteen, with exudative pleurisy, produced exaggerated symptoms of pilocarpine poisoning; the administration of twenty drops of an atropia solution used for the eye was followed by an almost immediate disappearance of the symptoms. A number of experiments were then instituted, which show that this antidotal property is also possessed by homatropia.—*Med.-Chir. Centraltb.*, July 14, 1882.

**IODODORM IN TOOTHACHE.**—Schaff, in the *Deutsche Med. Zeit.*, No. 12, recommends iodoform, on account of its gently caustic action, as an anodyne application to exposed tooth-nerves. The circumstance that a single or repeated application of iodoform does not produce any irritation, much less any inflammation of the periosteum, and the double function of the remedy as a cleansing and disinfecting agent, make it especially appropriate as a caustic, particularly before the introduction of a temporary filling. The author uses a paste consisting of iodoform, powd., grs. 60; kaolin, grs. 60; carbolic acid, grs. 8; glycerin, q. s.; oil of peppermint, gtt. 10. Triturate the iodoform, kaolin, and oil of peppermint with enough glycerin to form a thick paste.—*British Med. Journal*, July 15, 1882.

**DIRECT TRANSFUSION OF BLOOD.**—At the meeting of the Société de Chirurgie, held July 19th, M. ROUSSEL read a paper on an apparatus for direct transfusion of blood. This instrument was presented several years ago to the Société, but met with little favor; since then he modified it somewhat, and he now believes it fulfills all the indications.—*Gaz. Hebdomadaire*, July 28, 1882.

**CONGENITAL MALARIA.**—From a careful study of this subject Dr. CH. LEROUX derives the following conclusions:

1. It is as yet impossible to affirm the existence of a congenital form of malaria, or to establish the influence of heredity in infantile malaria. The reported cases are not numerous enough or sufficiently conclusive.
2. The existence, however, of certain cases of congenital hypertrophy of the spleen in children born of malarial parents, and in which the hypertrophy can be attributed to no other cause, together with the existence in such cases of other signs of malarial cachexia, render the existence of a congenital or hereditary form of malaria not altogether improbable.
3. Certain children appear to be born with an inherited predisposition to malaria, and may, even without being directly exposed to external malarial influences, suffer from an intermittent form of fever from the time of their birth of a type similar to that existing in the mother. There is considerable reserve expressed as to the share due to heredity in the production of these cases. Further researches are necessary.—*Rev. de Méd.*, July, 1882.

**NUTRITIVE INJECTIONS.**—DR. MORREL MACKENZIE recommends the following combination:

Boiled Beef, Mutton, or Chicken,	3iiss.
Sweet-bread, . . . . .	3ij.
Fat, . . . . .	3v.
Brandy, . . . . .	3ij.
Water, . . . . .	3iiss.

The meat, fat, and sweet-bread, should be minced very fine, and then passed through a sieve. The injection should be warmed up to 32°–35° C. before use, and should not be given oftener than twice in twenty-four hours: the rectum should be washed out with warm water before the injection is administered.—*Journ. de Méd. de Paris*, August 5, 1882.

**LIGATURE OF THE FEMORAL VEIN AT POUPART'S LIGAMENT AND LATERAL LIGATURE OF VEINS.**—At the eleventh annual meeting of the German Surgical Society, held in Berlin on May 31, BRAUN, of Heidelberg, advocated the ligation of the femoral vein at Poupart's ligament, since of the twelve cases reported of this character, in only two did any results of obstructed circulation appear, while the ligation of the femoral artery is only necessary when the ligation of the vein fails to control the hemorrhage. Braun also stated that the danger of thrombosis or slipping of the thread in lateral ligation of veins was over-estimated.—*Berliner klin. Woch.*, June 12, 1882.

**ACTION OF PILOCARPINE ON THE HEART.**—M. SCHUK has analyzed the action of pilocarpine on the heart, and thinks that it cannot be regarded as an active heart poison, as it is only capable of arresting the heart in a 1.25 per cent. solution. And even in this dose the ganglionic apparatus alone is acted on, the muscular fibres remaining unaffected. Atropia is capable of effacing the retarding action of pilocarpine. The effects produced by pilocarpine are proportionate to the dose, a point of contrast with the action of muscarine and atropia. The pulsations of all parts of the frog's heart are arrested by pilocarpine in large doses.—*Centraltb. f. d. Med. Wissen.*, No. 20, 1882.

**EXTRACT OF CONVALLARIA MAJALIS AS A DIURETIC.**—At the meeting of the Société de Thérapeutique, held July 26, M. MOUTARD-MARTIN read notes of a case in which the administration of the extract of convallaria, when associated with chloral, produced marked diuretic effects, while neither alone produced any change in the quantity of urine passed.—*Gaz. Heb. de Méd. et de Chirurg.*, August 4, 1882.

**THE EFFECTS OF DEPRESSION OF THE CRANIUM.**—In an elaborate memoir on the subsequent effects of depression of the cranium in childhood, DR. GUERMONPREY draws the following conclusions:

1. Depression of the cranium, whether complicated or not, can, in a general manner, be the cause of various psychical disturbances.
2. These disturbances are more important when the depression is located in the frontal region, particularly on the left side.
3. The depression may act as an interference to the normal development of the psychical function and growth of the brain.—*Arch. Gén. de Méd.*, Aug. 1882.

**POISONOUS EFFECTS PRODUCED BY THE TOPICAL USE OF IODOFORM.**—MR. HENRY E. CLARK reports a case of poisoning from the topical application of iodoform to a sinus, the result of a chronic abscess in front of the hip-joint. The symptoms in this case, as in most of the recorded cases of iodoform poisoning, although they vary considerably, have certain features in common which it is well to discriminate. Thus, in all there is pyrexia marked by extreme irregularity, the temperature running up to 104° F., or even more, and falling again very rapidly to near normal; the rise invariably takes place in the evening, but the morning fall is nearly always out of proportion to the evening rise. Thus, in the case under notice, the temperature on the evening of the 11th May was 103.8 F., but fell the next morning to 99.4 F., to again rise the following evening to 102°. Again, on the 16th, evening, it was 102.6°, and the following morning it was normal; but again rose to 102.4° at night. The pulse is extremely rapid and feeble, its rapidity being in great measure independent of the rise of temperature—for in our case it was noted that the pulse beats were 140 per minute on the 13th, morning, when the temperature was nor-

mal. Nausea, vomiting, and loss of appetite are inviolable symptoms, the vomiting being persistent and very little relieved by treatment. In the case detailed this symptom continued for more than a fortnight in spite of remedies, and the vomited matters were of viscid consistence and greenish color. There is always lassitude, headache, and dulness of intellect, and often delirium, which in the worst cases passes into unconsciousness, or is followed by localized paralysis. The symptoms sometimes resemble those of acute meningitis, the patient uttering peculiar cries, rolling his eyes, and the headache being intense. It is curious that although iodoform is so freely used in a great variety of conditions, and in patients of all ages and constitutions, it so seldom happens that constitutional effects are produced, and we are led to ask what are the circumstances which predispose to the absorption into the system, and the production of general symptoms. Mundy holds that the large quantity employed is the chief factor, and speaks of cases where from  $2\frac{1}{2}$  ounces to 10 ounces have been employed at one dressing; certainly in our case we could not blame ourselves for the reckless employment of the drug, as only five grains were applied on each alternate day. Another point, however, to be noted is the condition of surface to which it is applied; thus, on a free surface where a great deal of the iodoform is carried into or through the dressing by the discharge, the risk of absorption will be less than in a sinus with only one external opening where the discharge is pent up and the iodoform may be retained for many days. Nor must it be forgotten that some granulating surfaces are more active than others in absorbing materials from without, healing burns being especially adapted for absorption, which may account for the number of fatalities where this drug has been employed in the treatment of burns.—*Glasgow Med. Journ.*, August, 1882.

**THE TOTAL VOLUME OF BLOOD IN THE BODY.**—MM. GREHANT and QUINQUAND have endeavored to improve on the present inexact methods of determining the volume of blood in the body.

Claude Bernard established that the oxide of carbon when united with hæmoglobin formed a much more stable compound than oxy-hæmoglobin, and that oxide of carbon would displace its own volume of oxygen.

The total volume of the blood can therefore be obtained by allowing an animal to breathe a certain quantity of gas containing a known proportion of carbon monoxide. Then on measuring, say a quarter of an hour afterwards, the volume of carbon monoxide remaining, the volume absorbed by the blood can be readily estimated. On the other hand, the amount of monoxide fixed by a given volume of blood can be determined by measurement before and after the poisoning. Knowing the volume of gas absorbed and the quantity fixed by 100 c.c. of blood, the entire volume of blood can be obtained by a simple proportion. They do not give, however, any results of these examinations.—*Revue Scientifique*, June 10, 1882.

**THE ALKALOIDS OF PAO PEREIRA (*Geissospermum laeve*).**—E. CZERNIEWSKI, in an inaugural thesis, reports the results of a careful study of this subject, especially in its relations to toxicology, as follows:

1. From acid solutions geissospermin is extracted by benzole and chloroform, pereirin only by chloroform; from alkaline solutions geissospermin is removed by benzole, chloroform and amyl alcohol; pereirin by petroleum, ether, benzole, and chloroform.

2. Geissospermin is distinguished from strychnia by the fact that it is taken up by its solvents from acid solutions, by the reaction with Frøehde's reagent, and by the physiological test.

3. Pereirin may be distinguished from brucia by the fact that chloroform removes it from acid solutions, by its reaction with gold chloride, by its behavior with nitric acid and stannous chloride—in which reaction a striking similarity between the two alkaloids is also shown—and by the physiological test.

4. Geissospermin is rapidly absorbed from the alimentary canal, and is eliminated by the kidneys. The elimination reaches a maximum rate in from 24 to 72 hours.

5. Pereirin is readily absorbed from the intestines, but is apparently for the most part decomposed in passing through the system.

6. In a forensic analysis, geissospermin is to be sought in vomited matters, in the stomach, small and large intestines, liver, feces, and urine. Pereirin is to be looked for in vomited matters, in the stomach, small intestines, blood, liver, and lungs.

7. The following reactions of pereirin are especially worthy of note:

(a) The red color produced on adding to its solution in dilute sulphuric acid a solution of potassium bichromate.

(b) The red precipitate produced by gold chloride.

(c) The non-appearance of a red color on warming with mercury nitrate.—*Detroit Lancet*, August, 1882.

**TUBERCLE OF THE SYNOVIAL SHEATHS OF TENDONS.**—MM. TERRIER and VERCHÈRE describe a tubercular disease of the synovial sheaths of tendons, which appears to be more common in the hand than any other part. The tubercular nature of the affection in the cases they report is demonstrated by the microscopical characters of the inflammatory growth and the concomitance of tubercular disease of the lungs. Premising that the disease may be secondary to tubercular affection of neighboring bones and joints, they draw special attention to the form which occurs primarily in the synovial sheaths. They describe the origin of the affection as insidious, and the progress as very chronic. The first symptom is a swelling over part of a synovial sheath, as, for example, over the palmar surface of a phalanx. This swelling gradually grows and becomes softer, movement of the part then becomes both painful and limited. Other like swellings appear over other portions of the synovial membrane, as in the palm of the hand and above the wrist. The skin becomes adherent, reddened, and ultimately ulcerates, and pus and sero-pus are discharged; the ulcer extends, its edge being irregular, thin, undermined, and livid. A probe passed to the bottom of the ulcer readily finds a narrow opening into the sheath, along which it may be passed for some distance. The tendons do not slough, nor do they become firmly adherent. The disease does not spread to the neighboring bones and joints; and although in its course more than one part of the synovial membrane is affected, these are separated by quite healthy portions of the membrane, and this fact forms one of the best diagnostic features by which it may be distinguished from fungous disease of the membrane, in which the whole extent of the sheath is always involved. In one of the two cases observed by the authors, there was a very distinct history of an injury as the exciting cause: the patient, a young woman, had cut her wrist severely, and in another case there was a history of a bruise. The constant and rapid movements of the hand are considered to account for the great frequency of the disease there. The only treatment which promises any good seems to be early free removal of the tumors; cases in which this was done with good effect by Trélat and by Bouilly are recorded in the paper before us in the July number of the *Revue de Chirurgie*.—*Lancet*, July 29, 1882.



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## CONVULSIONS IN CHILDREN.

INFANTILE convulsions must always possess for the practical physician a keen, almost a fascinating, interest. The cases are by no means of equal importance—some may be immediately dangerous to life; some may be merely symptomatic of diseases varying immensely in severity, and some may possess but little significance. As regards the symptom—convulsion—the phenomena are various. The convulsions may be general, and involve all the muscles of animal life, or they may be limited to a single group of muscles. The symptomatic and the therapeutical diagnoses demand the clearest conception, the greatest fertility of resource, and the utmost promptitude of action.

As above suggested, a convulsion may mean much or little. At the outset, it is best to have as definite a conception as possible of what a convulsion is. That the pons Varolii and medulla oblongata are centres of reflex actions has long been known, but it was reserved for Nothnagel to demonstrate the position and define the limits of the "spasm centre." Irritation of this centre induces general convulsions, and this irritation may be direct or reflex, centric or excentric. The results of experimental physiology receive support from pathology. Lådame, in his *Hirngeschwülste*, has formulated this conclusion: When the symptoms of brain tumor exist, if there are convulsions, the tumor is not in the medulla, which may be interpreted as follows:

When a tumor develops in a position to injure the *spasm centre*, convulsions become impossible because the injured part has lost its power to functionate.

Various causes increase the irritability of the spasm centre. Abnormal irriatbility may, indeed, be hereditary. It is well known that certain families exhibit the tendency to convulsions, and all the children may experience attacks, or they may be confined to one sex. This tendency may be so strong that infants in the womb are affected, but it is in the first two years of infantile life that the greatest irritability of the spasm centre is found to exist. Beside this tendency, which is inherited, various constitutional states increase the liability to attacks of eclampsia. Rickets has a prominent position as a pathogenetic factor. This state acts, probably, by so increasing the irritability of the centres of reflex action, that very slight peripheric irritation sets off the high-strung spasm centre. The state of nutrition of the child is not without influence. When much reduced by long illness, the reflex functions are correspondingly lowered, and hence when, under such circumstances, convulsions occur, it is reasonable to suppose that no peripheric irritation has sufficed, but that some "coarse lesion" of the intra-cranial organs is the cause. Hence it follows that the nutrition of the child suddenly attacked with convulsions has diagnostic value; if the child be fat and healthy, the convulsion is a symptom of some excentric irritation; if weak and emaciated, it signifies some centric lesion, notably tuberculosis. It is not affirmed that such a rule has no exceptions—only that it has diagnostic value.

It is important to distinguish between eclampsia and epilepsy. Age is an influential element. If a convulsion occur after four or five years of age, if it is over in ten minutes, and no cause can be discovered for it, these constitute good grounds for suspecting epilepsy. If the attack is accompanied by high fever, if albumen can be detected in the urine, or if some acute disease follow, the seizure is one of eclampsia, although the patient may be anywhere from two to ten. Again, the character of the attendant phenomena—the behavior of the convulsion itself—throws strong light on the diagnosis. When the convulsions are limited to the face, to one limb, to one side of the body, it may be concluded that the lesions are intra-cranial. Again, if any part, the seat of convulsion—the face, the limbs, etc., should continue paretic or paralyzed for some days after the seizure, or if a squint should continue, or an eyelid droop, or the pupils remain unequal, cerebral lesions probably exist.

The prognosis of convulsions is usually difficult. When arising from intra-cranial lesions, the prospect is gloomy. Such evidences of cerebral mischief as squinting, irregular pupils, coma, etc., are of evil omen. In the convulsions due to uræmic poisoning, the most unfavorable symptoms may be recovered from, but the case wears a less hopeful

aspect the more persistent the failure of the urinary excretion. When the breathing continues labored, and there is deep cyanosis, with lividity of the face and the pulse is very rapid, the case has a most unfavorable appearance. A convulsion at the onset of an acute affection, as scarlet fever, affords no certain indication of the future gravity of the disease, but does illustrate the mobility of the nervous centres. Convulsions occurring toward the close of an acute disease, are unfavorable, and often signify that the disease has taken a more serious direction, or that tubercular meningitis has come on. In some children, so irritable and mobile is the reflex centre of spasm that but trivial peripheral impressions suffice to bring on convulsions. Amongst such causes, are indigestible food, swollen gums, earache, etc. Such children may have repeated attacks, which, if known, must lessen the gravity of the prognosis. A guarded opinion should be given as respects the future condition of such children, for if convulsions occur readily during the first and even second dentition from slight causes, this is a reason for apprehending the subsequent occurrence of epilepsy. Habit is such an influential factor in determining attacks of nervous diseases that we may well be solicitous regarding its power here.

The treatment of convulsions has an importance determined entirely by the cause of the seizures. Is the attack merely an excited state of the spasm centre from simple peripheric irritation? Has the child eaten some indigestible food? Are there worms, irritating foods, scybala, etc., in the intestinal canal? Is there a stone in the bladder, preputial irritation, or other source of irritation in the genito-urinary tract? Has sufficient urine been passed, and is the urine albuminous? Is an acute disease beginning, and is fever present? Has the child passed through an illness recently, especially of scarlatina or whooping-cough? Is the child emaciated? Has the child rickets? The treatment is much influenced by the answers to these questions. Causes of irritation must be at once removed by emetics, purgatives, vermifuges, etc., as required. Then follow the measures to allay the excitability of the spasm centre; bromide of potassium, chloral hydrate, and the inhalation of chloroform. When time presses, the last-mentioned expedient has great value. It is sometimes advised to administer ether instead of chloroform, but this suggestion indicates a failure to appreciate the excitant qualities of the former. Chloroform is well borne by children, and is more effective than ether. Chloral, by the rectum, renders an incontestable service. It is safe in the case of children; it is effective, and although not so prompt, is more sustained in action than chloroform. Bromide of potassium is most useful after consciousness is re-

stored to prevent future or impending attacks, or to allay the excitement, muscular twitching, etc., which may indicate the onset of convulsions. When swallowing is impossible, bromide may also be given by enema, and it may be combined with chloral for all of the purposes to which the latter is applied. If the surface is cold, the circulation feeble, and the skin dry, the child should be put in a bath at 100° Fahr. If the same conditions exist with a moist and clammy skin, dry heat should be used, the articles affording it having a temperature of 100° also. If, on the other hand, the temperature of the child is high, reaching 103°, 104°, or 105°, or more, the cold bath, or the cold wet pack should be employed without hesitation. The character of the bath prescribed will necessarily be affected by the state of the urinary secretion. If it is necessary to compensate in an increased action of the skin for the diminished activity of the kidneys, a warm or vapor bath may be necessary. If albuminuria exists, and the urine is very scanty, the convulsions being distinctly uræmic, a very powerful action of the skin must be secured, and this can be effected by no measure so successfully as by pilocarpine. There can be no doubt of the great good accomplished by this remedy under these circumstances, but any prudent practitioner will avoid inducing a dangerous cardiac depression by the use of large doses. Compensation for the diminished urinary secretion can also be obtained by free catharsis.

We should not fail to mention the remarkable results obtained by Loomis in cases of uræmic convulsions, by the hypodermatic injection of full doses of morphia. Although such treatment has been applied to adults only, and may be inadmissible in children, it throws light on the therapeutical diagnosis. In the simplest cases, almost no treatment may be required. A child has eaten an indigestible meal, has a convulsion, and vomits freely. The stomach emptied, the nervous disturbance ceases, but it is always well in such cases to prescribe some bromide of potassium to allay the reflex irritability and the excitement of the spasm centre. Here, as under all circumstances, no treatment should be instituted that is not the result of a careful survey and a logical deduction from the facts.

#### "OUR POOR FEET,"

So Mrs. Haweis, in her "Art of Beauty," well entitles one of her chapters. The "Crusade against Fashion" seems to be growing in importance and vigor. A century ago Camper, Professor of Medicine at the Hague, took up the task, and now not only a lady, but well-known scientists, are entering the lists, and they are lances that count for something. Mr. Flower, in his "Fashion in Deform-

ity," in England; Onimus in France; Starke in Germany; and Dr. Benjamin Lee in this country, have treated the subject in scientific papers of value. The war has been carried also into Africa. Such good surgeons as Mr. Treves, of London, and Mr. E. Noble Smith—the latter at the request of the National Health Society—have addressed public meetings on the evils of our modern dress. The *Medical Times and Gazette* intimates that such reforms had better be left to men of smaller calibre, as if the subject were beneath their dignity. But when we see that Mr. Flower and Mr. Spencer Wells do not regard it beneath their dignity to preside, or Dr. Clark to speak, at such meetings, or foremost scientists to write on the subject; and when we think of the importance of the matter as to health and to comfort, we hail the omen as auspicious. Men of small calibre would not gain the public ear. Wellington's first care was that his army should be well fed and well shod. Sir Henry Thompson has shown us how to cook beans; why should not Onimus show us how to make shoes?

It may be that the ladies will consult their *modistes* as to the size of their waists, and both sexes their shoemakers as to the shape of their shoes, rather than flee to the doctor, only to be met with a stern rebuke. But what if we could get the ear of the *modiste* and the shoemaker, and make the natural the fashionable, or convert by fortunate chance a Mrs. Langtry to the idea that natural forms are not ugly, and that the Venus de Milo and the Apollo Belvidere are at once models of health and of beauty? But be it as it may, it is our duty to cry aloud, and if society and the shoemakers will not hear—*tant pis!*

Savages do not deform the feet. Only the semi-civilized and the civilized do. We often hold up our hands in horror at the Chinese. Were it our feet—we would soon cease holding them up. Look in the *Popular Science Monthly* at Mr. Flower's latest Paris shoe for women, or at the outlines of the natural foot with those of a shoe dotted over it, or at his only too faithful pictures of common deformities of the foot seen every day at our hospitals, and then say whether the Chinese are very much ahead of us, *quoad* the feet.

But let us see the actual troubles in detail. They are of two kinds, first, as to the axis of the sole, and, secondly, the kind of heel. The Waukenphast shoe follows very well the curved axis of the foot-sole, as Dr. Lee has shown. But ordinary shoes have a median straight axis with nearly symmetrical curves on each side, barely varied enough at the "waist" to make them rights and lefts, and at the toes it is an evenly bevelled wedge, as if, as Mr. Dowie says, "the human foot had the great toe in the middle

and a little toe at each side like the foot of a goose"—which, indeed, it too often is.

The result is that the great toe is bent obliquely outward, often overlapping the others, and a bunion soon forms at its knuckle-joint; the other toes are crowded together so that the little toe is pressed tightly inwards, followed by one or two quickly developed corns; and at least one of the other toes, to find room for itself, either overrides its neighbors or is overridden by them, and not seldom has to be amputated to make walking to any extent a possibility. In-growing toenails also often result from this pressure.

The effects of slight continuous pressure, as shown in the grooving of hard bone by a soft elastic artery, all doctors know, so that we may well believe, with Mr. Flower, that even the stockings should be rights and lefts, and in some cases made like a glove with compartments for each toe. In fact, he says, a normal foot can scarcely be found.

Who does not admire a baby's foot or that of an antique statue? Notice the wide-spreading toes, the large inter-space between the great toe and the second, the almost independent mobility of every toe, and especially of the great toe with its seven muscles. Verily if women would only heed the lesson and show a really natural and pretty foot, they would add, as Mrs. Haweis says, a dangerous arrow to their quiver of charms.

But the other evil is equally bad, and is especially and almost exclusively a woman's danger. The heel is made too small and too high, and is displaced forward. Its narrowness makes women unsteady in their gait, like the Chinese. Their equilibrium is unstable. Its height is still worse. It puts the sole on an inclined plane as if the wearer were constantly going down a mountain; and how fatiguing that is let any one say after a trial. It predisposes to falls. The foot sliding forward on to the toes doubles them up producing painful corns on their upper surface. It throws the weight on the forefoot instead of the heel. Onimus shows by the graphical method, to which we lately alluded, that this twists the axis of the foot inward and often produces painful contractures of the calf muscles, the anterior tibials, and even the muscles of the thigh, due to the extra work required by the abnormal posture to maintain the body in equilibrium, and prevent it from falling forward. Especially is the peroneus longus muscle put on the strain by these two defects. Let any one stand bare-legged on one foot, and watch the tendons of these muscles in a looking-glass as his equilibrium is disturbed. Every slight want of balance causes one or another to spring into strong relief, showing their vigorous contraction. Imagine this going on all day in both feet, and one can readily believe that walking and



especially running (well-nigh a lost art among corset-bound and Chinese-shod women) will be rarely indulged in except when necessity admits of no excuse.

These evils are rendered even worse by the absurd displacement of the heel forward. This shortens the base of support thus increasing the instability of the gait, and transfers the point of support from the heel to the arch of the sole, where, instead of a large, solid, well-padded bone to bear the weight, we have a series of small bones and joints, ill protected from the blows attending each step; and the result is a frequent chronic slight inflammation of these joints which makes the foot tender and constantly uncomfortable.

The effects both on health and temper of evils such as we have described, the tendency to a sedentary life and sedentary pursuits, the unfitness for athletic sports involving the free use of the legs and feet, are evident to all but the devotees of fashion. But the evil consequences do not stop here. The respiration and the circulation are impaired, the nervous system suffers, and Onimus even believes that many displacements of the uterus result from the change in the centre of gravity.

Shoes that are natural in shape and healthful in use need not be ugly. But this is not so much a question of fact as of fashion. We would not now deem beautiful the very long shoe, with its hay-stuffed toe, worn by the gallants of the fifteenth century. Mrs. Haweis has suggested—and the suggestion is worth heeding—whether the Greek sandal could not be re-introduced with advantage both to health and looks, while the feet could be protected in our more rigorous winters by substantial and pretty stockings of worsted, silk, or velvet. Her further suggestion that wooden pattens be substituted for rubbers and arctics, at least in wet and mud, has not only novelty, but has given rise to suggestions of form and of ornamentation that are not to be despised. In time, with the æsthetic idea upon us as at present, we may see shoes and sandals, pattens and boots rival in ornamentation those of Chaucer's parish clerk with "Paules windows carven on his shoes."

Now that M. Burq has passed through the stage of denial of his method of metallothérapie, he is assailed with the criticism that it is not new—that he has simply revived Perkinism. In a recent discussion before the Biological Society of Paris, Rabuteau stated that Perkins was the real discoverer of metallothérapie, and that Burq had merely popularized it. But Rabuteau has certainly heard only of the "metallic tractors," and has not investigated Perkins' method. By the use of a metal cylinder, applied to various parts of the body, Perkins pre-

tended to cure all kinds of diseases. In a work published in London, at Perkins' Institute, a copy of which is before us, we find the claims of the inventor of the "tractor" set forth, attested by a number of certificates of cures. There is not a word in this work about the peculiar phenomena of metallothérapie—of the influence of metals on hemi-anæsthesia, of transfer, etc. The two agree simply in the application of metals, but whilst Perkins used his metal tractor as a magician's wand for curing disease, Burq discovered the influence of some metals on the sensory and motor functions of certain hysterical subjects.

RABUTEAU has recently been studying the effects of the sulpho-carbolate of sodium as a purgative. He finds that this salt is a certain and agreeable purgative, and possesses the distinct advantage over the sulpho-vinate, which has been warmly recommended for the same purpose, that it is a stable salt and does not decompose in the air or in aqueous solution.

SOME time ago the London *Lancet* entertained its readers with a letter from a special correspondent in America, who pictured the low state of medical education in this country by asserting that one might graduate from some of its best schools without having seen a clinical case. The unfairness of the assertion, and the false inferences that might be drawn from it, were pointed out at that time on this side of the water. But now the *Lancet* brings to its many American readers a new wrinkle in the methods of medical education. The Yankee student has not been smart enough to get off easier than his British fellows after all. The latter have a way of getting degrees that saves them the trouble not only of studying clinical cases, but also of studying at all.

Before the General Council of Medical Education and Registration, on June 27, Mr. Macnamara brought up the matter of "personation" at examinations. "Some time ago," he said, "it came to the knowledge of the branch Council of Ireland that £200 had been offered to a practitioner by a student to pass some of the examinations for him, so that his name might be in the medical register." Another student, it seems, who had passed first at a preliminary examination, was not in the country at the time. One gentleman (?) passed for himself and three others, and "a most successful grinder" kept a student for the purpose of passing preliminary examinations. It appears from the report in the *Lancet* that these little obliquities were practised to gain the fascinating title of L.K.Q.C.P.I.

In another column (page 250) we give extracts from a published letter of Dr. J. T. Baldwin, lately

Professor of Anatomy in the Columbus Medical College, and the statements therein contained are so direct, and of such a grave character that if not promptly and fully refuted must seriously affect the standing of the Columbus school, and may even render its faculty amenable to the provisions of the Act of February 12, 1881, which declares that to give a diploma to one who has not attended a full course in the institution granting the diploma, is punishable with a fine of from one hundred to one thousand dollars, or imprisonment in the penitentiary for from one to three years, or both.

## REVIEWS.

TRANSACTIONS OF THE AMERICAN GYNECOLOGICAL SOCIETY. Volume VI., for the year 1881. Philadelphia: H. C. Lea's Son & Co., 1882.

We are glad to welcome the receipt of this volume at a much earlier period of the year than when that of 1880 appeared. If the contributing Fellows will only act upon an excellent suggestion made last year, and present their papers in a finished state at the fall meeting, we have no doubt that there will be nothing wanting, on the part of the Secretary, to have the volume ready for the press at a much earlier date still—possibly in the spring months. It is not desirable to very largely increase the fellowship of the Society, as such a body should consist mainly of the working gynecologists of America; but an addition of twenty by election in six years seems hardly enough to embrace the element desired. The most certain plan to secure the services of a full corps of contributors would be to issue the transactions at as early day as possible. Writers who are anxious to see their papers in print, in this day of weekly medical journals, are not willing to wait several months for their publication, when periodicals are ready to take them upon much more favorable terms. The size of the volume under notice, 542 pages, indicates no falling off, as yet, in the activity of the working Fellows; but the experience of other societies points to a future time when such a result may be expected, unless the number on the roll shall be considerably increased. The plan of holding the meetings only in the cities of Boston, New York, Philadelphia, and Baltimore, is a wise one, as it secures a large attendance, and excites a much greater interest in the minds of visiting physicians. The experiment of going to other cities than these has been tried, but the result was not encouraging. The day may come when it will be found of advantage to meet always in one city, and the same building, which shall contain a collection of books and curiosities belonging to the Society: but this will require a handsome legacy to put it in force.

The subjects treated in the volume for 1881 are, Acute hyperæsthesia of the peritoneum, following minor gynecological operations; Exploratory puncture of the abdomen; Cases of pelvic effusion resulting in abscess; Genital renovation in urinary and fecal fistulæ; Forcible elongation of pelvic adhesions; Lupus of the vulvo-anal region; Bursting cysts of the abdominal cavity; Erysipelas in childbed, without puerperal peritonitis; Expansion of the bladder over abdominal tumors as a complication of laparotomy; Fibroid polypus with partial inversion of the uterus; Axis traction with the obstetric forceps; Measurements of the uterine cavity in childhood; Jaundice in pregnancy; The practice of gynecology in ancient times—fourteen.

The papers contributed by candidates for fellowship are upon the following subjects: Prevention of laceration of the cervix; A point in the management of the first stage of labor; The treatment of chronic perimetritis by puncture and iodine injections; The mechanical action of pessaries; Mania lactea, with reports of two cases; A contribution to the history of combined intra-uterine and extra-uterine twin pregnancy—six; of these, four were from New York, and one each from Chicago and Baltimore. Of the fifty-four Fellows of the Society, thirty-six reside in Boston, New York and Brooklyn, Philadelphia, and Baltimore; one third of the whole fifty-four coming from New York and Brooklyn.

The volume of 1881 will compare well with any European production upon the same class of subjects. It is not too much to say, that it has no superior in the English language, either in material or finish, as a society's transactions.

## CORRESPONDENCE.

### THE JUBILEE MEETING OF THE BRITISH MEDICAL ASSOCIATION.

WORCESTER, Wednesday, August 9, 1882.

THE jubilee of the British Medical Association was held to-day, but a large number of the members came to the loyal city of Worcester yesterday. The city is gay with bunting, and is evidently *en fête* to receive the medicos, who are here to the number of nearly six hundred, among whom I have already noticed Dr. Austin Flint and Dr. F. S. Dennis, of New York, both of whom are very well known and very popular with us. Worcester is the birthplace of the Association, which was started just fifty years ago by Sir Charles Hastings and a few trusty helpers. Then it was called the Provincial Medical and Surgical Association, and its numbers were few. Now it is a mighty Association, with nearly 10,000 members on its roll, an annual increase of several hundreds, and a rich balance in the hands of the Treasurer. The meeting opened yesterday afternoon with a special service in the Cathedral and a sermon by the Dean on the existence of a Personal God. Closely following this was a dinner given by the Mayor to the officers of the Association and a few distinguished visitors. Then, at 8 P.M., the President for the year, Dr. Strange, of Worcester, was inducted, and delivered his Address on the Revival and Survival of Medicine.

Taking a retrospective glance at the field of medicine, the President observed: "Both at home and on the Continent of Europe that decade was distinguished by a galaxy of names the like of which, at one period of time, the world has rarely if ever seen. There were, indeed, giants in those days. Recall to your minds the names of Wilson Phillip, who once lived here in Worcester; of Lawrence, of Abernethy, and of Cooper, all of whom, however, were already passing away; and then of Copeland, of Latham, of Marshall Hall, of Brodie, and of Watson, in England; of Barclay and Gregory, the Munroes and the Thompsons, of Knox, Alison, Bell, and Christison, in Scotland; of Graves, and Stokes, and many others, in Ireland. Nor was the Continent in any way behind us. I myself had the pleasure and advantage of hearing Louis expound Laennec, and of literally sitting at the feet of Andral, Chomel, Magendie, Roux, and Milne Edwards; whilst Rokitsansky, Scoda, Liebig, and, later, Virchow, were raising the German School of Medical Philosophy out of its backward, or at least little known, condition, towards the pitch of eminence to which it has since attained. These men, he contended, were not only

intellectual giants, but they were scholars as well, and no doubt their scholarship was owing to the greater attention then paid to training in classical literature in the education of the physician than is the case now.

"And what was the condition of the provincial practitioner at this time? With the exception of a few local physicians of the older stamp, solemn, scholarly, and formal, and here and there an apothecary of more than ordinary acuteness of observation, there existed one dead level of mediocrity; men without the ambition to compete with their metropolitan brethren because the means of doing so were denied them."

Dr. Strange naturally attributed much of the improvements in the attainments and social position of members of the profession which have been brought about, to the working of the Association. "The aim of its founders was that knowledge should be freely and generously communicated by the free and generous intercourse between hitherto separated and scattered individuals. That this aim has fructified so as to justify its conception was, he thought, proved by the meeting he was addressing; by the vast numbers who now call the British Medical Association their professional parent; by their large and frequent gatherings for the promotion of social and scientific interests; by their current literature, and by the way in which it had forwarded those interests, and by the valuable and increasing efforts of research which the Association more and more supports and fosters. The influence of the *Lancet* also came in for notice, the President observing that the services which this remarkable journal, after it had conquered its own independence, rendered to free medicine in the earlier days of its existence, amidst all its faults, failings, and even vices, were simply incalculable. Monopolies destroyed, hole and corner meetings, and doings of the corporations for the benefit of the few to the detriment and exclusion of the many, exposed, pompous ignorance and overbearing imbecility held up to scorn, the oppressed and obscure, but honest and industrious seeker after truth brought to the front. After a time, feeling its growing strength, this brave journal attacked the Legislature itself. And it was time. Its apathy towards all that concerned the interests of our profession, displayed in the tolerance of the most abominable abuses and monopolies in high places; its utter neglect of the public health, the farce of the Coroners' Courts, its winking at the atrocious adulterations of the people's food, its inhuman neglect of the sick poor, and its disregard of all decency in respect of the burial of the dead; these abuses were one by one attacked, and their authors and abettors lashed with a pitiless and unsparing hand, until redress and reform were grudgingly conceded." The good work done by the *Review* was also recognized.

In the second part of his address Dr. Strange said: "Looking upon the evolution of the medical mind as a continuous process, coming from whence we started, and going we know not whither, what are its characteristics at the present time? The first and noblest of them, I opine, is the love of liberty. Freedom to think, freedom to speak, freedom to write, freedom to teach. Fortunately for us, we have no thirty-nine articles to subscribe. We have no senate to revise and overrule the decision of the commonalty of medicine, no courts of appeal like our friends the lawyers. Let us never relinquish into the hands of the State the decision as to what shall be the kind and amount of our knowledge on entering our profession, or in what way, and under what restrictions, we shall conduct our experiments and enquiries into the laws of nature for the good of mankind, or in what manner, and for what reward, we shall carry our knowledge to the bedsides of our patients, be they the rich in their mansions or the poor in our hospitals, or in what way we shall regulate our mutual

intercourse. A second grand characteristic of modern medicine, I take leave to say, is philanthropy. By this term I do not mean to say merely that we are animated by the love of our species at large, by the common readiness to do good to our neighbor when opportunity presents itself, but that our profession is *ever* seeking out by toil of body and study of mind, *new* modes of relieving human pain and misery, that it ignores its own material advantage whenever that is placed in opposition to the good of our patients, or of our neighbors, and that it ever seeks to promulgate, against its own material interests, the doctrine 'that prevention is better than cure.'

"What remained to complete the Christian trial was truth—truth to Nature, truth to themselves, truth to their brethren, and to the world. If theories were pushed to an extravagant degree in order to bolster up some preconceived idea; if researches, which should be conducted only under the dry light of truth, were warped and strained to support a trembling reputation, truth must suffer." In this connection the President discountenanced the hasty publication, in the lay press, of so-called discoveries and improvements in practice, urging that, until the support of long-continued observation and experience was gained, publication should be restricted to the professional press. He also advocated the prosecution of knowledge by combined observation.

Then came a long report of the Council, and a discussion thereon. This part of the proceedings was quite as noisy and disorderly as usual. Dr. Milner Fothergill was to have moved a resolution in favor of having the editor of the Journal appointed for five years only, but for some reason best known to himself he kept away, and so the question is postponed till next year.

The question of the best means of excluding homœopaths came up for discussion, and it was wisely decided to rigidly prevent any of these irregular practitioners from entering the Association by any of its portals, but not to expel any who might have accidentally got in, and have been perverted to this heresy since admission. Following this was a noisy and excited discussion on a motion to introduce fresh blood into the Journal and Finance Committee, which is the real governing body of the whole Association, and which is re-elected year after year, and is consequently very conservative. The attempt was in great part successful.

This morning Dr. Wade, of Birmingham, delivered the Address on Medicine, of which this is an abstract:

Dr. Wade, in the course of his Address, gave a survey of the progress which had been made in the practice of medicine during the last fifty years. After showing the great advance which had been made upon the old theories, more especially with regard to blood-letting, which had been exploded, and the manner in which disease was now treated, he remarked that a dispassionate survey of present medical practice forced him to the conclusion that on a very large scale, and in both chronic disorder and organic disease the physiological basis of treatment was too often unduly subordinated to the restorative basis of treatment. He beseeched them to analyze each for himself, and in his own way, the conceptions and the practices of those who had gone before. The lessons he had been trying to enforce were no new ones; the doctrines they embodied had underlain the actions of all the great practitioners of the past. He ventured to think they ought to be assimilated by all practitioners in the future. The greater their advances in the science of anatomy, physiology, and pathology, the more need was there that their powers of observation should be sharpened, refined, and sensitized, for in the same proportion would new suggestions arise of modes in which this



knowledge might be transmuted into means of influencing the processes of disease. To each one was given to render the practice of medicine more rational, more common sense, because more truly scientific, to render more rare in the future such dark blots as they had regretfully recognized in the past.

At 1.30, five hundred members were entertained at luncheon by the Worcester and Hereford Branch of the Association, and the opportunity was taken to present a bust of Sir Charles Hastings to the Mayor and Corporation of Worcester. G. W. Hastings, Esq., M. P., gave some reminiscences of his father, which were very interesting, and although he had to tell of his many excellences, his great devotion to science and to duty, he skilfully avoided any mere eulogy. At 3 o'clock the Sections met. The number of Sections vary from year to year; this year we have eight, a full number. The President of each Section opened the proceedings with a short address. My space only allows me to speak very briefly of the Sectional work.

Dr. Clifford Allbutt, of Leeds, opened the *Medical Section* by an address on some of the more recent changes in medicine won, he asserted, by unity, and freedom of thought, chief of which he placed the discovery that force and matter are but one subject under two names. He then went on to point out the great importance of a deeper knowledge of the genesis of disease with a view to its prevention. Subsequently there was a discussion on the "systematic treatment of aggravated hysteria and allied forms of neurasthenic disease" opened by Dr. Playfair, who has been largely practising Dr. Weir Mitchell's rest-cure treatment.

For the *Surgical Section*, Mr. Pritchard, of Bristol, spoke of some of the changes in surgical practice during fifty years, and he particularly insisted on the value of counter-irritation by means of setons and issues, and of the median operation of lithotomy.

Mr. Greig Smith, of Bristol, read a paper on the *Early Treatment of Strumous Disease of Joints*. This, he stated, had two varieties—the one beginning as pulpy synovitis, the other as destructive inflammation of the joint marrow of articulated bone. For the former, he advocated the free incision of the joint and the entire removal of all the pulpy tissue, to be followed by aseptic drainage of the joint. For the latter he recommended incision down to the bone, and removal by the gouge of all the inflamed bone. Both operations should be done with strict Listerian precautions. He asserted that, by these means, many cases of excision might be prevented, and recovery with perfect movement of the joints be secured.

Then followed a discussion on the *Treatment of Fracture of the Patella*, in which the Leeds surgeons (Wheelhouse, Teale, and Jessop) especially took part. The outcome was that for compound fracture, even when very severe and complicated, and for cases of useless joint from badly united fracture, suture of the fragments with strict aseptic precautions was the proper course to pursue, as it was not dangerous and gave excellent results in bony union.

Mr. Reginald Harrison showed the fragments of a phosphatic vesical calculus removed at one sitting by *litholapaxy*, weighing over two ounces. Mr. Gould showed a photograph of a stone removed by Dr. Bigelow in the same way which weighed over three ounces, and he mentioned a case recently under his own care in which he attempted to crush a stone weighing two and a half ounces, by Dr. Bigelow's new strong lithotrite, but failed owing to the inability of even this powerful instrument to crush it—he therefore had to cut the man, and he pointed out that there was therefore a limit to the cases in which lithotripsy was practicable. The stone was an unusually hard uric acid one.

In the *Section of Public Medicine*, Dr. A. Carpenter

referred to the work of the founders of the Association in this department, as recorded in the early volumes of the Transactions of the Association.

In the *Section of Anatomy and Physiology*, Prof. G. Humphry (Cambridge) opened by an address on the great value of the study of anatomy from an educational point of view, and then insisted that it should be combined with a study of the mechanics of the body, and the relations of the particular forms of structures to their special uses, and their most frequent injuries and diseases. Some rare abnormalities of the alimentary and genito-urinary organs were shown.

In the *Section on Pathology*, Dr. Hughlings Jackson (London) presided, and spoke of the great value of post-mortem examinations, and urged upon general practitioners the importance of losing no opportunity of witnessing them. In consequence of their infrequency in private practice, he suggested that the doctors of a district should associate and each give notice to the others when he was called upon to make an autopsy for the coroner or when he could have the presence of his fellows. A discussion on the *Pathology of Diabetes* followed, and specimens of minute changes in the cord and brain were shown under the microscope.

At six o'clock the Irish Medical Graduates dined together. In the evening a special service was held in the Cathedral, and Haydn's Creation was performed by the splendid choir. The fine building was crowded by a delighted audience. At the close a collection on behalf of the British Medical Benevolent Fund was taken.

*Postscript*.—Thursday, Aug. 9. At 8 A.M., about three hundred of us were entertained at breakfast by the National Temperance League, and appropriate addresses were delivered. To-day we have the Address in Surgery, further meetings of all the Sections, and the Annual Dinner in the evening. To-morrow the Sections meet in the morning, and then we all give ourselves up to amusements. But of all this I must write you next week.

#### PRESIDENT GARFIELD'S CASE.

To the Editor of THE MEDICAL NEWS.

SIR: I beg leave briefly to call attention to some statements in the article of Dr. Baker, published in THE NEWS of July 29, which may mislead those of your readers who have not carefully looked into the matter, and which, had it not been for my unavoidable absence from town, I would have corrected at once.

1st. In describing the diagram of the Baltimore and Potomac Railway depot as having been "reduced from the copy used in the trial," he neglects to state that the dots indicating the positions of the President, the assassin, and some of the witnesses—the only points under discussion—were introduced by himself, or by some one, subsequent to the trial, and did not constitute part of the evidence. The diagram as published by him, and the theory of the shooting which he formed upon it, are, therefore, in no sense official. On the contrary, I am assured authoritatively that the prosecution was entirely convinced that the *first* was the fatal ball.

2d. The value of Dr. Baker's attempts to prove that the President turned to the right *after* the first shot was fired, depends altogether upon the truth of his assumption that the second shot was the fatal one. That this was not the case, is proven by the immediate evidence of serious injury given by the President after the first shot was received, and particularly by the fact, as to which there is no conflict of evidence, that after that shot, and while he was sinking to the floor, he threw

up his hands. Knowing this, it is easy to account for the wound upon the outer aspect of the left forearm, extending from the radio-humeral articulation for several inches in a direction parallel with the long axis of the radius, and corresponding exactly with the cut in the coat-sleeve. It is evident that this could only have been inflicted while the arm was raised, and, therefore, that it must have been caused by the second shot.

If any further evidence were needed in addition to these facts, and to the circumstance that the attending surgeons, with all the testimony obtainable immediately after the shooting, and the prosecuting attorneys with the additional information developed during the trial, were convinced that the first shot was the fatal one, such evidence may be obtained by reference to pages 121, 137, 151, 152, 169, 192, and 193 of the Official Report of the Trial of Guiteau. That any one could be willing, in the face of this testimony, and of the facts I have mentioned, to assert that "it is certain the second shot was the fatal one," is to me inexplicable. Dr. Baker's entire theory, together with his alleged ante-mortem diagnosis, and his criticism of the treatment, depends on his accuracy in regard to this point; it might have been supposed that he would exercise great care as to his premises before venturing to discuss the treatment of a patient he had never seen, and to differ with what he himself calls "the best surgical talent of the country."

Some minor inaccuracies may be mentioned as tending also to give rise to erroneous impressions regarding several interesting points.

3d. When Dr. Baker quoted the "general rule laid down by Hamilton, that conical balls usually go straight to their destination," he should have added that *rifle* balls were meant, and when he speaks of the "inadequacy of any soft tissue to stop a ball of forty-four calibre, fired with twenty-two grains of powder at six feet range," he should explain whether or not he regards two resilient ribs as in any way entering into the problem.

4th. Every surgeon who has had even moderate experience with gunshot wounds of the abdomen, knows how almost invariably vomiting occurs after such wounds, and would hesitate before asserting that on account of that symptom there had been "an injury to the solar plexus."

As to the internal hemorrhage, which Dr. Baker says was indicated by the "peculiar thready character of the pulse," and which he infers must have come from towards the spine, because "the vessels" lie there, the argument seems scarcely worth alluding to. It was impossible to say where the bleeding came from. It might have been an intercostal artery or some large muscular branch, as *all* the vessels do not "lie towards the spine," and at any rate, having ceased, it would have been contrary to all sound surgical practice to have disturbed the wound at the risk of renewing it. As to the removal of the small fragment of rib, any attempt to do this might have reopened a wound of an intercostal vessel, or have made one if it did not already exist, and have thus added a serious, possibly a fatal, complication to the case.

5th. Dr. Baker's statement of the elementary anatomy of the coeliac axis, the pancreas, and the splenic artery has no bearing on the interesting question as to the mode of production of the aneurism. The *fact* is that there were numbers of small granules of bone on the left side of the spine near the splenic artery, and that they were seen and spoken of at the time of the autopsy. Of course, they were perfectly competent to give rise to inflammation or other lesion of the artery.

6th. Neither have the cases quoted by Dr. Baker any relation whatever to that of President Garfield, or to my assertion that *perforating* gunshot wounds of bodies

of vertebrae have invariably proved fatal. The writer, in the *Lancet* of May 27th, who after quoting Dr. Gailard's case, added that it showed conclusively that "a gunshot wound of the body of a vertebra is not necessarily a fatal injury, as was hastily and unwarrantably stated in reference to President Garfield's case," committed a gross inaccuracy. Dr. Baker does not reiterate this absurd statement, but quotes it without comment, permitting the uninformed reader to suppose that it coincides with his views, although, of course, having studied the subject, he is aware of its essential falsity.

7th. As to several other assertions of Dr. Baker, the contradictory evidence is perfectly clear and conclusive. Dr. Lincoln was *not* with the President "most of the time on the day of the shooting," but only for a few minutes. The hyperaesthesia was *always* more severe in the right than in the left foot, and extended some distance up the leg, being far more intense upon the dorsal than upon the plantar surface; the tenderness did *not* extend from the scrotum over the lower abdominal region; the fracture of the rib was discovered at the first examination; the deflections of the ball before reaching the vertebra were confirmed by the official report of the autopsy; the testimony is *not* unanimous as to the directness of the second shot, nor does it, when read in its entirety, establish even a presumption in favor of any of the conclusions which Dr. Baker draws in reference to that shot.

8th. One or two opinions which he attributes to me in reference to the relative position of the wound of entrance and the fracture of the eleventh rib, and in regard to the enlargement of the wound and removal of the splinters, were certainly not contained in my paper. As in the question of the prognosis in perforating wounds of vertebrae, Dr. Baker might have spared himself some trouble if he had replied merely to what I did say, and had not supplied me with theories which neither I, nor as far as I know, any one else, ever believed in.

It seems to me, however, that "nothing could more strikingly illustrate the difficulty which physicians at a distance have in understanding this fatal case," than the difficulties which evidently surrounded those who had the advantage of living within a mile or two of the sick chamber.

I recognized so fully the impropriety of discussing a case with which I had no professional relation, that I did not venture to write upon the subject until I was assured that any errors arising from my want of personal acquaintance with the case would be corrected by my friend and teacher, Dr. Agnew; a similar supervision might perhaps have improved, though possibly somewhat shortened, Dr. Baker's excellent article.

Yours, very truly,

J. WILLIAM WHITE.

PHILADELPHIA, August 21, 1882.

## RESUSCITATION OF THE DROWNED.

To the Editor of THE MEDICAL NEWS.

SIR: In your remarks upon the above subject, in the issue of THE MEDICAL NEWS of August 12th, you omit to mention a "method" which, in the experience of several physicians, has proven to be of much more value in the resuscitation of the drowned than any of those to which you allude. I refer to what I call the "speedy method" in asphyxia; and, as you seem willing to procure and to lay facts before the profession, I would respectfully call your attention to it, as it has been successfully applied in asphyxia of the neonatus in hundreds of instances within the past twelve years; and in that of drowned persons, in more than a

dozen cases, during the same period. You will find an article on "A Speedy Method in Asphyxia" in the January, 1880, issue of *The Independent Practitioner* (vol. i., No. 1, p. 11), published, at that time, in this city; and in the *Medical Record*, of New York, also. I feel confident that a perusal of the mode of practising it will satisfy you that it should be more generally known, and that it is *in no wise* inferior to *any* of the other known "methods!" It would, indeed, be an easy matter to find a large number of intelligent medical gentlemen here, and elsewhere, who regard it as *superior to any other* in the treatment of asphyxia of the neonatus; and all of those who have resorted to its use in cases of the drowned, regard it most favorably. I feel satisfied that your great interest in the profession, and in the preservation of human life, will cause you to give a knowledge of it the advantage of your large circulation, so that it may take the place to which it is entitled among the resources of those whose office it is to treat the asphyxiated.

I am, very respectfully, yours,

HARVEY L. BYRD, M. D.

127 N. ARLINGTON AVENUE, BALTIMORE, August 17, 1882.

#### INSOLUBILITY OF GELATINE CAPSULES.

To the Editor of THE MEDICAL NEWS.

SIR: The subjoined observations were made after free and indiscriminate use of the gelatine capsule, and corresponding facts may be attested by any careful, vigilant practitioner. A point of interest drawn from these notes is, that the cases in which the observations were made were those of young children and old persons, in both of which classes the digestive function is naturally feeble. The appearance of the capsules when ejected was that they had attracted the viscid mucus of the stomach by their natural adhesiveness, and being encased in this, had traversed, unscathed, the remainder of the alimentary tract.

It is not to be understood, however, in the opinion of the writer, that these are the only classes of patients in which the same objections to their use may be not unjustly urged. Individuals of all ages, sick with malarial fevers, in which the gastric and hepatic secretions are more or less suppressed, may fail to respond to remedies given in this way, for the same reasons which explain their inefficiency in the cases noted, although no facts are in my possession to make this statement other than inferential.

1st. No. 1 gelatine capsules containing sulph. quinia may be ejected from the stomach of a child four years old, sick with remittent fever, six hours after administration, the capsule and quinia both undissolved.

2d. No. 1 and No. 2 gelatine capsules containing calomel, Dover's powder, and pulv. rhei, may be discharged from the rectum of a child four years old thirty-two hours after administration, in remittent fevers, the capsules remaining *in situ* and powders undissolved.

3d. No. 3 gelatine capsules containing sulphate of quinia may be discharged from the rectum of a healthy child thirty-six hours after administration, the capsules being *in situ* and contents undissolved.

4th. Gelatine capsules containing various drugs may be discharged from the bowels of a woman fifty to sixty years old twenty-four hours after administration, neither capsules nor contents having been acted on by the gastro-intestinal secretions.

5th. Nos. 1 and 2 gelatine capsules, containing various drugs, may cause by their presence in the bowels of a child four to eight years old, sick with remittent fever, serious cerebral symptoms, to which the condition of the circulation indicates no claim.

The foregoing observations have been made with gelatine capsules manufactured by Parke, Davis & Co.

Respectfully yours,

R. T. BYRD, M.D.

BOLIGEE, ALA., July 28, 1882.

#### NEW INVENTIONS.

##### A NEW SPLINT TO REPLACE THE STROMEYER.

BY W. W. KEEN, M.D.,

SURGEON TO ST. MARY'S HOSPITAL, PHILADELPHIA, ETC.

THE Stromeier splint can be completely extended, but if *flexion* be desired, it cannot be obtained, since the screw intervenes between the two arms of the splint. This is the first and chief inconvenience of the splint. Moreover, at the joint it very often causes excoriation of the skin by pressure.



Both of these evils are remedied by the form of splint figured above. To remedy the first evil, two metal plates are screwed to the wooden pieces, with lateral projections which carry the screw. The latter cannot then interfere with flexion. Either of the collars through which the screw passes can be made with a thread, and the other without it, if forced motion be desired in only one way. If forced motion in both ways be desired, the lower collar should be free from any thread, the end of the screw being flanged above and below the collar, while the upper collar should have a thread. Each collar is on a pivot, made needful by changes in the relative positions of the two wooden arms in varying degrees of flexion. If complete extension be required, the screw must be long enough to allow of it.

The second evil, pressure, is avoided by the arrangement at the joint. This is sufficiently plain in the engraving, without any further description. Nor is it needful to suggest the cases in which it may be used, as they will readily suggest themselves to any practical surgeon.

#### NEWS ITEMS.

##### WHEELING, WEST VIRGINIA.

(From our Special Correspondent.)

THE STATE BOARD OF HEALTH OF WEST VIRGINIA; ITS PROGRAMME OF SANITARY WORK.—Having completed the medical registration in conformity to law, the Board is now actively engaged in purely sanitary work. As a ready means of educating the people in sanitary matters, a "Health Primer" is to be published at a very early date—probably by October 1—and distributed broadcast over the State. Two subjects have been assigned each member of the Board for study and report. The following schedule will show the character and scope of the proposed work:

Hon. A. R. Barbee, M.D.—1. Stimulants and Narcotics. 2. Climate, Topography, and Geology.



Geo. H. Carpenter, M.D.—1. What to Eat and How to Cook. 2. The Duty of the Medical Profession.

Lawrence Carr, M.D.—1. How to Resuscitate the Drowned. 2. Diseases and Accidents of Coal Mines.

Wm. M. Late, M.D.—1. The Houses we Live in. 2. Our Domestic Animals and their Diseases.

Geo. B. Moffitt, M.D.—1. How to Nurse the Sick. 2. Drainage and Sewerage of Towns and Cities.

Gabriel McDonald, M.D.—1. Contagious and Infectious Diseases. 2. Country Life and its Exposures.

C. T. Richardson, M.D.—1. Accidents from Explosions and Poisons. 2. Health of Freedmen.

James E. Reeves, M.D.—1. Domiciliary Hygiene. 2. Hygiene of the School-room.

Papers "No. 1" will go into the "Health Primer." Papers "No. 2" are for the next annual report to the Governor, which the law requires shall be made on or before January 1.

#### VIENNA.

(From our Special Correspondent.)

DEPARTURE IN THERAPEUTICS—GRAPE CURE IN THE VOLKSGARTEN.—Dr. v. Hibentauz has succeeded in introducing into the Volksgarten an establishment having for its object the cure of numerous diseases through the agency of grapes, variously combined with tannic acid. Much discussion as to the merit of the undertaking is rife among medical circles. The institution will be opened towards the latter part of August, when the grapes begin to ripen.

OVATION TO PROF. E. LUDWIG.—Prof. Ludwig, who recently received from the Faculty of the University of Vienna the honorary degree of Doctor of Medicine, was tendered, within the last few days, an ovation at the hands of his students. The occasion was a highly enjoyable one, although the Professor's modesty made it a little painful for him, at first.

DR. MICKULICZ.—Dr. Mickulicz, first assistant of Billroth, and Docent of Surgery, has been named as a candidate for the Chair of Surgery vacant in Krakau. Dr. Rydygier, of Culm, who excised the pylorus for ulcer recently, is his most important rival.

ANNIVERSARY OF THE FOUNDING OF THE UNIVERSITY OF WÜRZBURG.—The students and authorities of the University of Würzburg will celebrate the three hundredth anniversary of the founding of that famous school, this week. The festivities will be of a very imposing character and will last five days.

MEDICAL "DIPLOMA" FROM THE "UNIVERSITY OF PHILADELPHIA."—D. Herzl, a dental technologist, was recently summoned to appear before a magistrate in the Inner City, Vienna, and was charged with having drawn teeth without necessary qualifications, and with having furnished the same individual with a set of false teeth, whose spiral spring was made of a composition of copper, nickel, and zinc, plated with gold. The patient deposed that the false teeth occasioned pain in her cheek, produced an unpleasant taste in her mouth, and were otherwise annoying. Medico-legal chemist, Prof. Ludwig, and dentist, Prof. Scheff, were present as experts. Both experts united in the opinion that the effect of the composition metal was in the highest degree injurious. Prof. Scheff stated that the accused was guilty of malpractice in the insertion of a set of false teeth two weeks after the former teeth had been extracted. Under such circumstances three months, at least, should intervene.

The Dental Technologist produced as one and his chief qualification a diploma in medicine from the "University of Philadelphia."

He was found guilty, fined, and placed under arrest.

THE COLUMBUS (O.) MEDICAL COLLEGE.—DR. J. T. BALDWIN, lately Professor of Anatomy in the Columbia Medical College, in a signed letter to the Columbus *Sunday Morning News*, states that the Columbus Medical College graduated a man "who didn't know what the iris was, nor the pupil; could not locate the mitral nor tricuspid valves; placed the valvula conniventes in the brain, and the ileo-cæcal valve in the rectum!" He also says, "I have absolute proof of the graduation of one man who had never attended a previous course of lectures, and who made no claim to have done so;" and "I have been shown a letter, written by the Dean, in which he tells the person addressed that he can graduate by paying half the term fee, all the graduation fee, and passing an examination in Practice, Surgery, and Obstetrics, and that he need not come to lectures until examination week."

PRELIMINARY EXAMINATION AT THE UNIVERSITY OF PENNSYLVANIA.—The University of Pennsylvania is arranging for the holding of admission examinations to its Medical Department in cities remote from Philadelphia, in order that students residing at a distance may not be discouraged from applying on account of what would seem a useless expense in coming to Philadelphia, in the event of their failure to pass the preliminary examination.

CANADA MEDICAL ASSOCIATION.—The next meeting of the Canada Medical Association will be held in Toronto, on the 6th, 7th, and 8th of September, under the Presidency of Dr. Fenwick.

THE ITALIAN MEDICAL CONGRESS.—The tenth Italian Medical Congress will be held in Modena early next September. It is expected that His Excellence, Dr. Bacelli, Minister of Public Instruction will be present. At the same time as the Congress, there will be held an Exhibition of Hygienic Appliances, and of objects generally connected with sanitary science.—*Brit. Med. Journ.*, Aug. 5, 1882.

INTERNATIONAL CONGRESS OF HYGIENE.—At the meeting of this Congress to be held at Geneva, M. PASTEUR will read a paper on the *Attenuation of Virus*.

UNIVERSITY OF EDINBURGH.—At the annual conferring of degrees on August 1, the degrees of M. B. and C. M. were conferred on the largest number of graduates the Edinburgh University has ever sent forth. The degree of M.D. was conferred on thirty-two candidates, and the degrees of M. B. and C. M. on one hundred and eighty-one candidates.

THE PHILADELPHIA COUNTY MEDICAL SOCIETY'S COURSE OF LECTURES.—The Philadelphia County Medical Society has determined to institute an annual course of lectures on topics in medicine, surgery, and obstetrics, which shall be of general professional interest. The first annual course will be delivered during the ensuing winter by Professor Austin Flint, Sr., who has chosen for his subject, "Practical Points in the Physical Exploration of Visceral Diseases."

MEETING OF THE AMERICAN ACADEMY OF MEDICINE.—At a recent meeting of the Council, it was determined to postpone the annual meeting of the Academy until Thursday, October 26th, when it will be held at Philadelphia, at the time of the Bicentennial Celebration in that city.

CURE OF DIPHTHERIA.—M. and MME. ST. PAUL have offered to the French Academy the sum of 25,000 francs as a prize to be awarded to the person, without distinc-

tion as to nationality or profession, who shall discover an efficacious and sovereign remedy for diphtheria, the Academy deciding as to the merits of the claim. Until the discovery of this remedy, the interest of this sum is to be granted biennially by the Academy to those whose essays on diphtheria seem to deserve recompense. Six memoirs have already been presented, but were not deemed worthy of the prize.—*Gazette Méd. de Paris*, August 5, 1882.

**ROSS ON THE NERVOUS SYSTEM.**—In its review on Ross on "The Diseases of the Nervous System," the *Edinburgh Medical Journal* (July, 1882) shows where the author's ignorance of German, and his unfortunate habit of not giving credit for what he borrowed, lead him to make an amusing mistake. "The case of Sterne," he says, "who saw distinctly the satellites of Jupiter with the naked eyes, is a good example of optic hyperæsthesia" (p. 313, vol. i.). Sterne—there is only one Sterne—was a very clever and amusing fellow, but we never heard before of his sharp sight, and as he died in 1768, this is just a statement which ought to have a reference to confirm it. Unluckily for Ross, we have accidentally fallen upon this reference. Here it is: "Ich erinnere nur an die Beobachtungen, dass Sterne siebenter Grösse und die Jupiterstrabanten mit blossen Auge deutlich erkannt wurden" (I am reminded of the observation that stars of the seventh magnitude and the satellites of Jupiter can be seen with the naked eye).—Eulenburg, *Lehrbuch*, etc., S. 321. The fact is quite as remarkable as before, but it loses much of its interest with the loss of the personality, "Sterne" being not, like "David," a man's name, but only the German for "stars," "siebenter Grösse," of the seventh magnitude. Ross must have been sorely exercised in his mind with this "siebenter Grösse." What on earth decided him to cast it aside?

**LITERARY NOTES.**—We hear that Princess Christian, of England, is translating into English Prof. Esmarch's work, *Erste Hülfe bei plötzlichen Unglücksfällen*.

The Dictionary of Medicine, about to be published by Messrs. Longmans, will be issued early in October. It will form a volume of 1800 pages and numbers more than 200 contributors.

Foster's Physiology has been translated into Italian by M. Lessona, of Milan.

Dr. J. W. Little has just published a work on the *Medical and Surgical Aspects of Genu Valgum*, which he gracefully dedicates "To Professor Gross, M.D., D.C.L., etc. etc., Father of Surgery in America, an enlightened and honorable example of all that is noble in our profession, and to his medical and surgical brethren, in grateful acknowledgment of their cordial reception of him when on a visit to the United States in 1878, this work is inscribed by the author."

**STATISTICS OF MEDICAL JOURNALISM.**—According to Dr. A. Dureau, one of the librarians of the French Académie de Médecine, the number of medical journals published at stated intervals in Paris is 95, and in the colonies 52, total 147.

The German Confederation publishes 133 journals, Great Britain 69, Austria 54, Italy 51, Belgium 28, Spain 26, Russia 26, Holland 16, Switzerland 10, Sweden and Norway 9, Denmark 5, Portugal 4, Danubian Principalities 4, Turkey 2, Greece 1. Total for Europe 583.

In America 183 journals are published, in Asia 15, in Oceania 2. Total for all countries, 785.

The number of journals founded since 1679 exceeds 2500.—*Revue de Thérapeutique*, August 1, 1882.

**THE SALMON-DISEASE AND ITS LESSONS.**—PROF. HUXLEY has published some observations on the epidemic known as the Salmon-disease in the *Proceedings*

of the Royal Society. The disease, as is well known, is produced by the growth of a parasitic fungus, and Prof. Huxley looks upon it as a disease of the same order as ringworm in the human subject, as the muscardine of silkworms, and the potato-disease. This fungus, which belongs to the order *Saprolegnia*, finds a suitable nidus in the skin of that part of the body which is devoid of scales, and generally first attacks the top and sides of the head; thence it may extend widely over the scaly surface also, and deeply into the true skin, causing extensive ulceration and sloughing, so that "one vast open sore may cover the top of the head from the snout to the nape, and may extend over the gill-covers." Several points of general interest have come out in the course of the inquiry; one of these is, that the fungus does not attack the viscera, so that the flesh of the diseased fish is probably not injurious in any way; and it has been said, by those who have made the experiment, that the palate can detect no difference between it and the flesh of healthy fish. This applies probably only to the early stage; for when death—which is produced by exhaustion—is approaching, the flesh no doubt deteriorates in quality. Another interesting point is the manner in which the sloughing of the true skin is produced. The fungus at first attacks the cuticle, but, after it has taken root there, it sends processes (hyphæ) downwards into the true derma; these processes branch laterally in every direction, and gradually extend deeper and deeper. The tracks of these hyphæ are not accompanied by any obvious inflammation; but they are so closely set, that they mechanically interfere with the nutrition of the part, and so lead to sloughing. The third point to which we wish to draw attention is, that the fungus is essentially a saprophyte—i. e., it ordinarily finds its nidus in dead animal or vegetable tissues, and is only occasionally a parasite upon living organisms. Every stream in the kingdom probably contains indefinite quantities of this and allied fungi, which grow readily on the bodies of dead flies and other insects. Prof. Huxley thus arrives at a conclusion with regard to this disease, analogous to that to which the student of human pathology is often brought in the case of many infectious diseases—namely, that, though the parasitic organism may be the determining cause of the train of symptoms which come under observation, there are other, and as yet unknown, circumstances, extrinsic or intrinsic to the infected animal, in the absence of which the parasite cannot develop.—*Brit. Med. Journal*, Aug. 5, 1882.

**PERILS OF THE HOT-AIR BATH.**—The hot-air bath, in all its varieties of construction and arrangement, is a powerful agent for the disturbance of the circulatory system. The change effected may be good, or it may be bad, for the subject; but it can scarcely be inoperative. The heart's action is quickened; the tension of the blood-pressure is at first heightened, and then—if copious perspiration take place—it may be reduced. Speaking generally, there is a determination of the blood to the surface, leaving the central and deep organs less fully supplied than before. In this way, doubtless, local congestions are occasionally relieved by the bath. Under ordinary circumstances, the change effected in the distribution of blood and pressure is likely to be beneficial, but if the heart be weak, or the larger vessels rigid, it may happen that faintness ensues. Then something is done, either by the affusion of cold water on the extremities, or in one or more of several empirical ways, to drive the blood in again, and this endeavor may prove the last strain that throws the whole physico-vital apparatus of the circulation out of working order, and renders the continuance of the essential functions of life difficult or even impossi-

ble. We believe the Turkish bath to be a most potent and, when rightly managed, useful agent for the control of the circulation; but it is necessary to warn the public against the reckless use made of it in cases the precise nature and peril of which are not understood. Except by the robust and thoroughly healthy, the hot-air bath should on no account be employed without express medical approval. Even this restriction is scarcely enough, because it may happen that the subject of a weak heart or abnormal bloodvessels regards himself as healthy, until the unaccustomed demand made on his organs of circulation by the bath discovers the weak place in his economy. It is not desirable to lay too much stress on those deaths which occasionally occur in, or after a visit to, Turkish baths. They are accidents in the use of the agency, and as such must be regarded as significant. At the same time, it is desirable that the dangers of the bath should be more generally understood than they would seem to be, and that the proprietors of these establishments should be required to instruct their managers and attendants to send at once for medical assistance whenever a visitor becomes faint or even momentarily unconscious. Such occurrences must needs portend peril of death, and, however large may be the proportion of instances in which the "slight faint feeling" or "sleepiness" passes away, it is manifest that a grave risk is in *all* case incurred, and a responsible medical man should be instantly summoned to aid the recovery. There ought to be nothing left to the discretion of the manager or attendant in such a case. Again, although it is easy to see that proprietors would prefer to avoid deaths on their premises, no person who has been ill or even slightly unwell in the bath should be allowed to leave the establishment without being seen by a doctor. Further, we think the practice of *sleeping* in the hot rooms ought to be interdicted. There is always danger at the moment of awakening.—*Lancet*, July 22, 1882.

ANECDOTE OF NÉLATON.—Dr. Caradec gives, in the *Union Médicale*, July 2d, the following anecdote of Nélaton as authentic: A pet dog of the painter Meissonier one day broke one of his legs, rendered friable by over-feeding. Meissonier, desolated by such an accident to so beloved an animal, resolved to have recourse to the prince of surgical science, who at that time was Nélaton; but not venturing to declare the true motive, he telegraphed in hot haste for him as if to visit one of the family, then living at their charming residence at Bougival. Nélaton arrived, and entering the drawing-room, began talking on various topics with the master of the house, who, although he had painted many battles and carried off many victories, knew not how to face the present affair. At last Nélaton, becoming impatient at the delay, and knowing the value of his time, asked, to the great embarrassment of the painter, where the patient was. Presently the wounded brute was brought in on a magnificent cushion, howling with pain in spite of all the care taken. At so distressing a spectacle, Meissonier, forgetting everything else, exclaimed in agony, "Save him! illustrious master, save him!" Nélaton dressed the fracture, and the dog recovered; and shortly afterwards its master wrote a grateful letter to the great surgeon, thanking him for his kindness, and requesting to know his fee. Nélaton replied that when the painter came to Paris he could call upon him. This he soon did, and was producing his purse crammed with banknotes, when Nélaton exclaimed, "Stop, sir! you are a painter, are you not? Just put a gray coating on these two panels which the cabinet-makers have finished!" This was indeed a delicate revenge; but which had the last word? Meissonier, who, going at once to work,

at the end of a few days produced two of his *chefs-d'œuvre* on the panels.—*Medical Times and Gazette*, July 22, 1882.

HEALTH IN MICHIGAN.—Reports to the State Board of Health, for the week ending August 12, 1882, indicate that bronchitis considerably increased, that consumption, neuralgia, tonsillitis, dysentery, and intermittent fever increased in area of prevalence. There was no marked decrease in any disease reported. Yet, compared with reports in preceding years, the sickness from intermittent fever, diarrhoea, dysentery, and typhoid fever, seems to be much less now than is usual at this time of year.

Including reports by regular observers and by others, diphtheria was reported present during the week ending August 12, and since, at 17 places, scarlet fever at 11 places, measles at 6 places, and small-pox at 14 places, as follows: In Walker Township, Kent Co., August 7; in Ionia Township, Ionia Co., near Carson City, in Westwood, Kalkaska Co., and at Custer, Antrim Co., August 10; at Detroit, Flint (2 new cases), Marquette (1 case), August 12; at Grand Rapids (4 cases), and Portland (1 new case), August 14; in Montrose Township, Genesee Co., August 15; in Danby Township, Orange and Sebewa, Ionia Co., August 16.

#### OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT, U. S. ARMY, FROM AUGUST 15 TO AUGUST 21, 1882.

MURRAY, ROBERT, *Colonel and Surgeon*.—Relieved from duty as Medical Director Military Division of the Missouri, and to report in person to the Commanding General Military Division of the Atlantic and Department of the East for duty as Medical Director of that division and department.—*S. O. 191, A. G. O., August 18, 1882.*

BILLINGS, JNO. S., *Major and Surgeon*.—By direction of the President, relieved from duty as a member of the National Board of Health.—*S. O. 190, A. G. O., August 17, 1882.*

HUBBARD, V. B., *Major and Surgeon*.—Now awaiting orders, to report in person to the Commanding General Department of the Missouri for assignment to duty.—*S. O. 186, A. G. O., August 11, 1882.*

SMART, CHAS., *Major and Surgeon*.—By direction of the President, detailed as a member of the National Board of Health, organized under Act approved March 3, 1879, *vice* Major Billings, Surgeon, relieved.—*S. O. 190, c. s., A. G. O.*

BYRNE, CHAS. B., *Captain and Assistant Surgeon*.—The leave of absence granted him in *S. O. 68*, July 12, 1882, Department of the South, is extended two months.—*S. O. 189, A. G. O., August 16, 1882.*

SENI, B. G., *Captain and Assistant Surgeon*.—To be relieved from duty in Department of the Platte, and, on expiration of his leave of absence on Surgeon's certificate of disability, granted him in *S. O. 121, c. s., A. G. O.*, to report by letter to the Surgeon-General.—*S. O. 186, c. s., A. G. O.*

TAYLOR, M. E., *Captain and Assistant Surgeon*.—Granted leave of absence for four months.—*S. O. 188, c. s., A. G. O.*

SPENCER, WM. G., *Captain and Assistant Surgeon*.—The leave of absence granted him in *S. O. 80*, April 7, 1882, from *A. G. O.*, is extended two months.—*S. O. 191, c. s., A. G. O.*

MACAULEY, C. N. B., *First Lieutenant and Assistant Surgeon*.—Appointed Assistant Surgeon, to date from August 10, 1882.

CHERBONNIER, A. V., *Captain and Medical Storekeeper*.—Upon expiration of his present sick leave of absence, to report in person to Lieutenant-Colonel E. Swift, Assistant Medical Purveyor, New York City, for duty in the medical purveying depot in that city.—*S. O. 183, A. G. O., August 14, 1882.*

THE MEDICAL NEWS will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.

Local papers containing reports or news items should be marked. Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

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